

A Prognostication euerlastinge of right good
 effect, fruitfully augmented by the auctor, contayning plaine, briefe,
 pleasaunt, chosen rules to iudge the weather by the Sunne, Moone, Starres,
 Comets, Rainebow, Thunder, Cloudes, with other extraordinary tokens,
 not omitting the Aspects of Planets, vvith a briefe iudgment for euer, of
 Plenty, Lacke, Sicknes, Deaith, VVarres &c. opening also many
 naturall causes vvorthy to bee knowen.

Ephemerides

To these and other now at the last, are ioyned diuers Generall pleasaunt Tables,
 vvith many compendious Rules, easy to be had in memory, manifeste vvayes
 profitable to all men of vnderstanding. Published by Leonard Digges
 Gentleman. Lately corrected and augmented by
 Thomas Digges his sonne.



Imprinted at London, by Thomas Marsh. Anno. 1585.

A Prognostication of the good

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Printed in London by J. Sturges, 1782.

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TO THE HONORABLE SIR EDWARD

Finos, Earle of Lincolne, Baron of Clinton and Saye, knight of the noble order of the Garter, Lord high Admirall of England, Ireland & Wales, and of the Dominions and Iles therof: of the towne of Calyce & Martins of the Iles of Normany, Galloigne and Guian. And Capitaine generall of the Queenes Maiesties Seas and Nauie Royall.

Right honorable, hauing of long time sundry wayes founde your Lordships great fauour, not only toward my father in his lyfe tyme, but also toward his, most bountifully continued sithe his death: I haue carefully thought which way I might some way yelde a testimony of a gratefull mynde. And perusinge of late a Booke of my fathers to your Lordshyp dedycate, by negligence or ignorance of Correcters many wayes depraued: I determined both to amend the faults, and with some additions to amplyfie the same, bryefly also to touch and dyscouer certayn errors touchyng matters of Nauigation, transferred into our language. And although I haue in a peculyar volume for that purpose prepared to entreate at large, deliuering new Rules & Methodes, hitherto in no language publyshed, nor to my knowledge of any forrayne Nation practyzed, not only in demonstration voyde of all error, but also in practise feazible: Yet in the meane, least farder boldnes by ignorance should encrease, to deryue vs more errours fro other nations, whereof our Seamen haue learned too many already: I thought good at the end of this Booke to note some of the most used and esteemed, and among that faction held for Oracles, whereby in deede they haue byn and are (in all Nauigations) so mysled, that were they not by sight of the coast, and soundyngs, better dyrected then by any troth in theyr Art, many more vessells should daily perysh. This present token therefore of dutifull good will, I shall humbly desire your Lordshyp in good parte to accept, meaning hereafter (God sparing lyfe) to honour your Lordshyp, and profit my cuntry wyth matters more rare. And in the meane whyle I humbly take my leaue.

At your Lordships commaundement
Thomas Digges.

Asii.

TO

To the Reader.



O auoyde (gentle Reader) the yerely care,
trauayles, and paynes of other, with the con-
fusions, repugnances, and manifold errors,
partly by negligence, and oft through igno-
rance committed: I haue againe briefly set
forth a Prognostication generall, for euer to
take effect: adioyning thereto diuerse profita-
ble collections, & many pleasaunt conclusions, easie of all willing in-
genious to be perceiued. Here note (Reader) whereas y^e eleuate
Pole and Meridian should bee considered, in this wooke it is
perfourmed for London, because I w^{ish} this Meridian, situati-
on or clime the exacte truth of thinges. If any yearely practises in
like matters agree not w^{ith} my calculations, bee assured they are
falle, or at the leaste for other Elevations or Meridians supputa-
ted, and therefore litle seruing thy purpose. And that the late rude
inventions, and grosse deuises of some this yeare, and two yeares
past published might bee of them perceiued, then filed, and to
serue to some profite: I haue purposed euermore to put forth a
booke named *Pananges*, well seruing their turne, and so generally
and most exactly all Europe, pleasaunt, & profitable to the learned,
and no small delight to all maner of men. An other booke is also al-
ready come to thy hands, entituled *Tectonicon*, a treasure vnto y^e
Masons, Carpenters, Landmeeters, correcting their old erroneous
wrongfully reckoned of them as infallible groundes, teaching
faithfully, sufficiently, and very briefly, the true mensuration of
all maner lande, timber, stone, boord, glasse, &c. And at the end con-
taining an instrument Geometricall appoynted to their vse. Take
in good worth these labours (louinge Reader) and looke shortly
for the pleasaunt fruites Mathematicall, even such as haue bene
promised by my freinds and partly by me. Neither shall my desire
to profite, here stay: but extendeth farther to procede, if these seeme
accepted. As the good will of printers not had, kept the foresaid
from you: so I trust the willing minde and excellency of Thomas
Gemini shall bring them shortly vnto you. Certes my hope is,
while life remaineth, not to be vnfruitfull to this common wealch,
with study, and practise.

Against

Against the reprovers of Astronomie, and Sciences Mathematicall.



I am diuersly occasioned (louing reader) somewhat to write in þe cōmendation of the Mathematicalls: which neede not, but onely to open the foolish rashnesse, & rather foolishnesse of such, which of late haue in writing dysprayed these goodly artes. It is an olde sayde sawe, and true:

Vimperant qui simpliciter eas ignorant.

Scientia non habet inimicum nisi ignorantem. But to auoyde tediousnesse, and chiefly for the more satisfying, I referre all of that sorte which haue tasted any learning, (the rest not regarded) to the first part of famous Guido Bonatus de vtilitate Astronomiæ in communis: where hee writeth contra illos, qui dicunt quod scientia Stellarum non potest sciri ab aliquo: contra illos qui dixerunt quod scientia Stellarum non est utilis, sed potius damnosa &c. contra illos, qui contradicunt iudicijs Astronomiæ, & qui reprehendunt eam, nescientes dignitatem eius, eo quod non est lucratiua. Also for breuitye I appoince all nice deuines, or (as Melancthon termeth them) Epicurei Theologi, to his high commendations touching Astronomie, uttered in his Epistles to Simon Grineus, to Schonerus, and to þe peroration of Cardanus, booke, where hee sheweth howe farre wyde they alleadge the Scriptures agaynst the Astronomer, which make wholly with the Astronomer. Melancthon writeth and affirmeth: *Arrogantiam esse cum summa stultitia coniunctam, venari choragium aliquod glorie ex insectatione artium, quæ sunt graui autoritate doctorum prudentium receptæ: he calleth it manifestum insania genus, declaring quod magis opus habent Medicis, quam Geometris, aduising the learned not to geue eare vnto theyr folly. Sinamus (ait) vna cum Epicuro ineptire.* Whych counsel I followe. Now therefore, yee enemies of all good doctrine epyther geue an ouerthrowe and that w your pen, or lette famous Guido, or learned Melancthon satisfy. If neither: certes I will shortly (God sparing life) take some paine in publishing the wonderfull vnknowne pleasaunt profits of these dysprayed high knowledges, and by that meanes to enforce silence.

Now in fewe, for thy encouragment in these, thus I say, and truly: the ingenious learned, and well experienced circumspect student Mathematicall, receyuech dayly in his wittie practises more

Stultī negligēt
& cōtemnunt:
qui contradic-
tambitiosus ē,
qui maledic-
t, fatuus.

pleasaunt toy of minde, then all thy goods, (how riche soeuer thou
bee) can at any time purchase. *Id tantum quod pulchrum est, quod
purum est, quod diuinum est: nihil mortale sapiens dulci ardore am-
plectitur. Ut multa paucis: crede mihi, extingui dulce erit Mathe-
maticarum artium labore.* Now to end: that learned Guido, that
excellent Guido bonatus, sheweth what Astrologie or Astronomie
is, and ought not (sayth he) by any meane to be reprobated, in
that the most wise, yea, the holy fathers haue practised that sci-
ence. He proueth it one of the chiefe sciences Mathematicall, by
auctoritie of the best learned, and by Aristotle in his Posterio-
rum. Now commeth it to passe louinge Reader, seeinge it is a
noble Science: *Et Scientia est notitia vera conclusionum, quibus
propter demonstrationem firmiter assentimur,* that it is counted bayne
and of so small strength: the secret truthe and most pleasaunte
profites therein not desired, yea vtterly dyspyled and of some busy
hyting bodie reiected as very lies: Let no man doubt, ignorance
the great enemy of all pure learning hath wrought this. *Nam
incertam vocat hanc artem vulgus propter errores, non arti, sed hominū
indoctissimorum inscitia, & temeritati imputandos, qui citra delectū
omnia effutunt.* Thus I leaue indigently farther to trouble: I shal
me as I tender the furtheraunce of good learninges profitable to
a common wealch: Fare most hartely well, vnfayned good Chri-
stian Reader.

THE

The contentes of this booke.

Fol. 2.



From the next syde to the fift leafe are contayned the form of a Quadrant, Square, Circle, Quantities, with a figure truely placinge the sayde Quantities in the heauen.

From the fift to the thirteenth, yee haue the iudgment of weathers by the Sunne, Moone, Starres, Comets, Raynbow, Thunder, Cloudes, with extraordinary tokens and aspects of Planets. &c.

The 13. 14. 15. and 16. leafe, shewe the causes of such alteration according to Aristotle. First of the Raynbow, then Rayne, Frost, Dewe, Snow, Haple, Typhons, Earthquakes, Thunders, Lightnings, Comets, Sunne and Moone eclipsed, Quantities of the Planets, and their placinge ocularly demonstrated.

The 17. the aspects of the Moone, and her signification in the 12. celestiall Signes.

The 18. 19. and 20. What Signe the Moone is in, and shall bee for euery, the meete time to let blood, to pouge, to bathe, to fall timber, to sow, to plant, to graffe, cut, geloe. &c.

The 20. and 21. haue Tables for the Sunday letter for the Golden number of Prime, for the Epact and moueable feastes, many wayes conducing.

The 22. 23. and 24. the age of the Moone, the chaunge and quarters for euery are declared, the Ebbings & Flowinges, the breake of the day, the Sunne rising, the length of the day and Night, the Twylght for all the yeare.

The 25. 26. and 27. shewe exacte pleasaunt wayes for the day and night howze, with composition of meete instrumentes.

From the 29. to the 34. leafe, yee haue the peculiar Kalender, very commodious for the day and night howze.

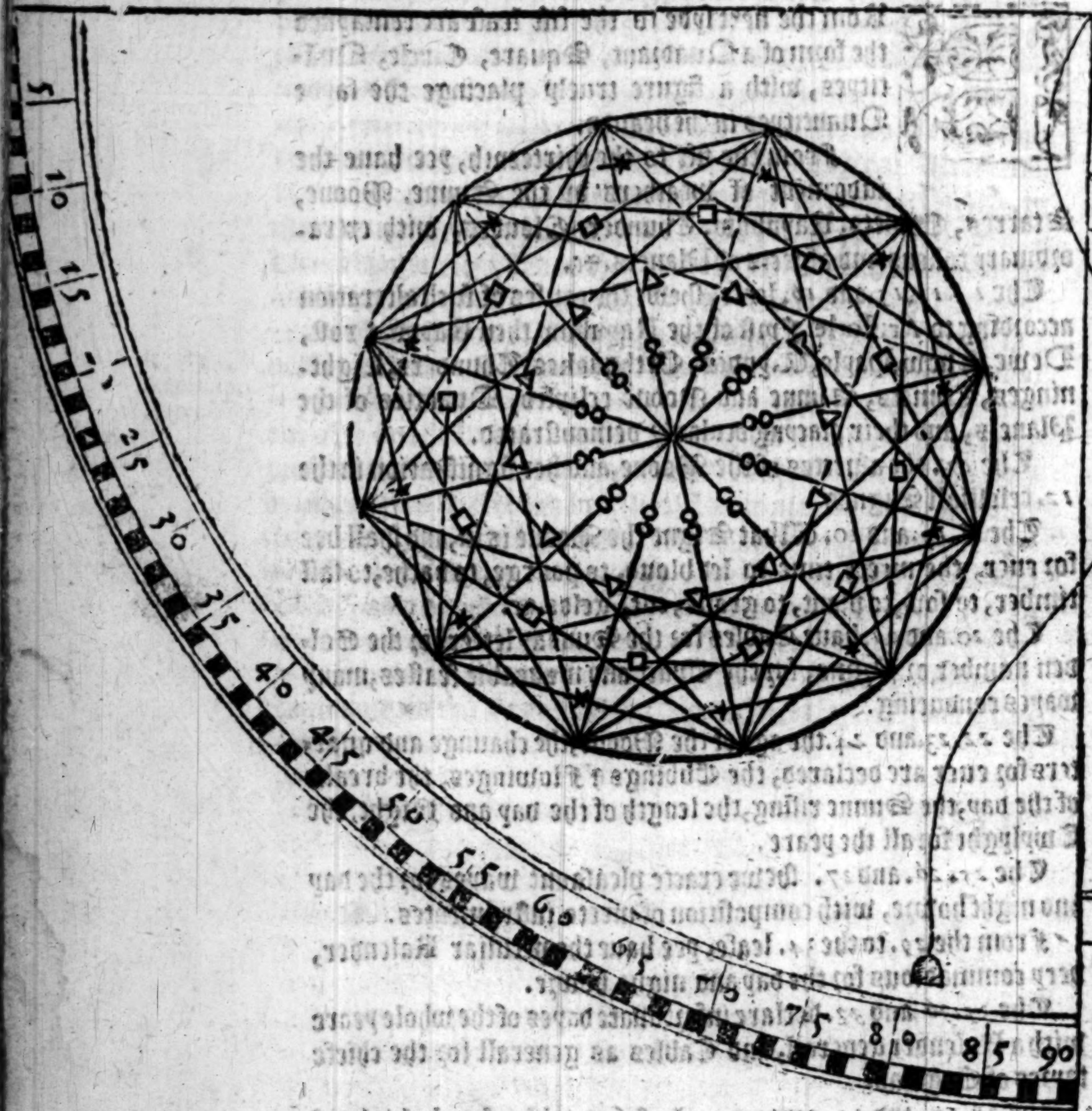
The 35. 36. and 37. declare infortunate dayes of the whole yeare with a Kalender generall, and Tables as generall for the chiefe sayes of England.

The 38. 39. and 40. contayne pleasaunt tables for the hight of the Sunne at all howzes, for right and squire shadowe, conducing also to the composition of many instrumentes. &c.

The 40. and 41. leafe, Collections easy to be had in memoire.

Chis

This Quadrant is appoynted here to get exactly the length of Staffe and Squire shadow, how unleswell soeuer the ground bee, as I haue sufficiently instructed in the eight and thirtieth leafe.



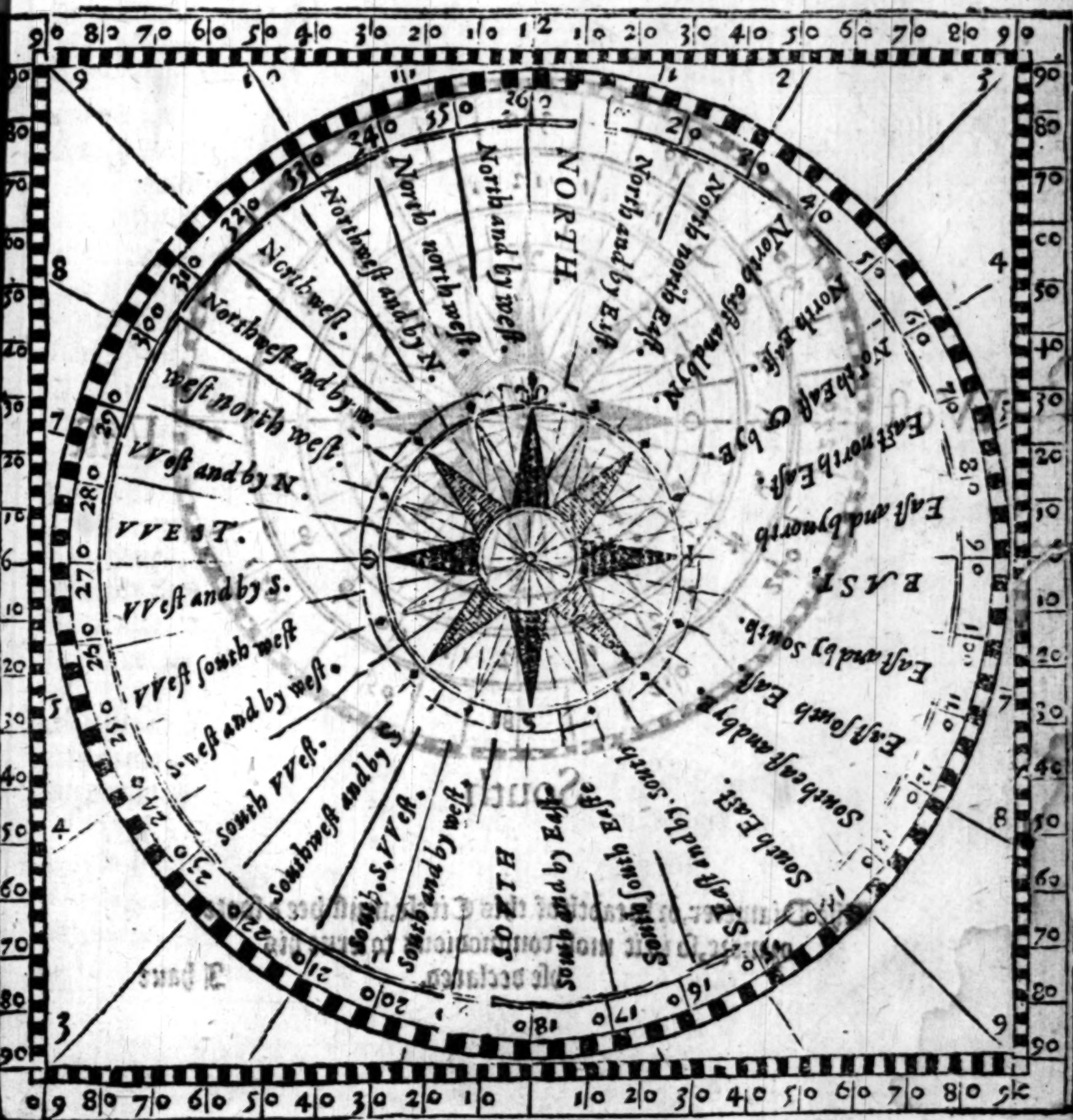
If ye list not to make a Quadrant, yee may use this very well: adding a plumbet and linc, vvith sightes or othervise.

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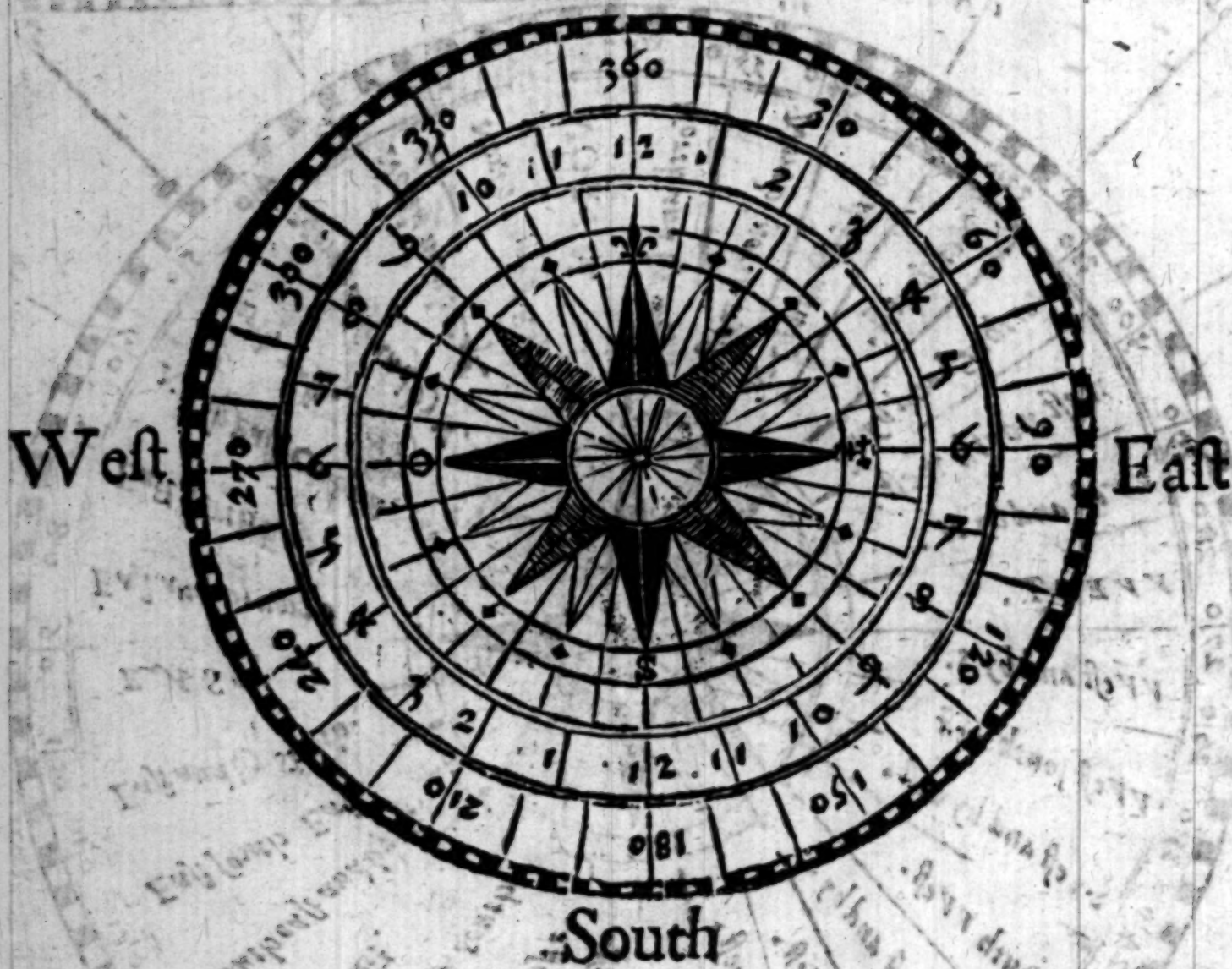
This Instrument must be made in a playne fine mettall plate, a soote, or more square. The it is pleasaunt for the houre of the day and night, eyther to be fixed about your house, or moueable if yet lyst, by a needle to be placed where and when yee wyll. The 26. leafe sheweth the making.



The good Mariner may long for the vse of this Instrument: it serueth marueplously his turne.

Or thus, without the Square this Circle will serue well
your purpose, being exactly made, and truely placed.

North



The Diameter, or breadth of this Circle, must bee a foote
or more, so is it most commodious to serue his
ble declared.

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I have placed ready to be conceived even here at the eye, & true quantities of magnitudes of the seven Planets, the one to the other, & every i. to y^e earth: which may satisfy them that scorned my last publishing where I declared y^e Globe of the Sun, to contain y^e Globe of y^e Moone, 7000. times. I would they were able to conceive demonstration made: then y^e truth more evidently appearing, would pull scorn away.



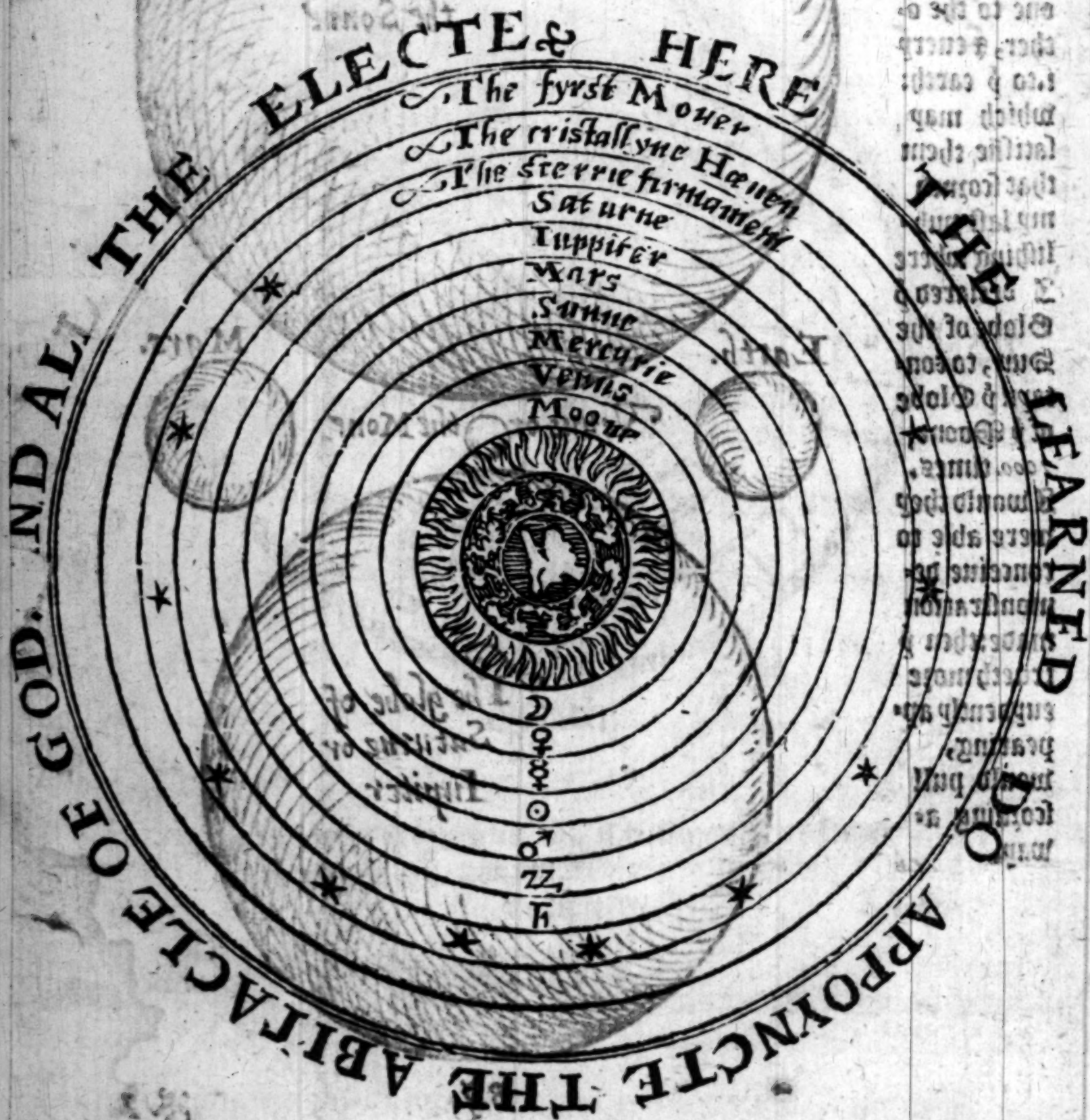
Venus or the Monr.



The globe of Saturne or Jupiter

THE PRINCIPLE OF THE UNIVERSE

I thought it meete also to put here this figure, shewing the placing, compassing, and distances, of ech of the foresayd Planets in the heauen: which distances, at my last publyshyng were thought impossible. This figure wyttily wayed, may confirme a possibilyty to agree vnto the true Quantities immediatly before put forth, therefore not omitted here to bee placed.



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Fol. 5.

the Sunne ryling or going
downe.



The Sunne in the Horizon or rising, cleare and bright, sheweth a pleasaunt day: but thinly overcast with a cloude, betokeneth foule weather. Also at the going downe, the body diuersly coloured or red, and about disperled with like cloudes, the beames red, and of length, pronostice great wyndes, the next day from that part. Blacknes in the Sunne or Moone, betokeneth water: Red signifieth Winde.

The Element redde in the evening, the next day fayre: but in the morninge redde, wynde and rayne. Also the Sun beames spotted greene, pale, or blacke, gathered to a cloude, signifieth rayne. Further, the Sun at the setting playnly seene without any cloude, declareth a fayre night to ensue.

Here note, Ptolome willoth vs diligently to obserue the circle, or circles about the Sun. If it bee cleare, and the circle of no continuance, behold fayre weather. If many of them, winde.

Winde more vehement are signified, if that the circles be somewhat redde, here and there broken: but these obscured, thicke, and blacke, looke for colu, wynde, and snow.

What is spoken of the Sun, touching the circles, the same is meant of the Moone.

Note here that greater winde chauce in the day, then in y night.

Note.

How weather is declared by the colour of
the Moone, and by the nature of the
Sygne wherein shee is.

If the Moone in the third of hir chaunge, yea, thre dayes before the full, or in the midbes of the quarter be found of pure light, nothing compallinge hir, the end direct by, she promisseth fayre weather, but bent to red colour, pronosticeth winde. The Moone pale or somewhat inclined to black, obscure or thicke, threatneth rayne.

Also by the nature of the signe, weather may bee iudged, thus according to Steflerinus, Monte regius, Leupoldus, & famous Guido

B iii.

Guido

De obseruan-
da meteoris,

Luna rubes ve-
tat. pallor pluit,
Alba serenat.

A Generall Prognostication.

Guido Bonatus, with others well traualled in mutations of ayre.

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 II ☿ ☿
 Ayrie.
 S m X
 Watrye.

Consider the nature of the signe where the Moone is at the change, quarter, and ful. If she be in hote and dry signes, as Aries, Leo, Sagittarius, in winter a good token of fayre weather: In Sommer a great signification of immoderate heate: If in earthy, cold and dry signes, as Taurus, Virgo and Capricornus, in winter iudge cold, frost, and snow to ensue: but in sommer temperate weather. In Ayrie and windy signes, as Gemini, Libra, and Aquarius, much wynde. If in watry cold and moyste signes, as Cancer, Scorpio and Pisces, in Winter wet weather: In Sommer a pleasant temperature.

Also, the Sunne in Aquary: the Moone at the change there, or in Sagittary, or at the ful in Leo, betokeneth raine. The Sunne in Pisces or Aries: the Moone in Virgo, Libra, or Sagittary, signifieth rayne, especially in watry dwellings. The Moone in Aquarius or Pisces, loke for change of weather, then thirthe she troubleth payre. The Moone also at the change, or rather at the ful, in Aries, Libra, Scorpio or Pisces, tempestuous weather followeth. The Sunne in Aquarie, in Aries, Libra, or Scorpio, but chiefly in Leone: the Moone then at the ful, and that after raine or quillinges, loke for lightning, thunder &c. To conclude, the Moone in Cancer, Leo, Capricornus, or Aquarius, ayded with any aspect, but chiefly with opposition or Quadrate of Venus, raine followeth.

The iudgment of weather by Starres.

Cum maiora
 apparent tum
 enim Hu more
 medius crasce-
 scit aer.

Behold the Starres whose magnitude you know best. If they appeare of much light, in bignes greate, more blasing then they are comonly, it betokeneth great winde, or moisture in that part where they shewe: in winter, cold and frost. When Starres seeme to runne in the Element, it sheweth wynde. Affirme also alteration of weather, if they bee fewe in number, cloudy, and of litle light. Further when dim Starres appeare with long fiery rayles, iudge wyndes and gret drought, the more in number, the greater effect. When Starres in the night (as it is sayd)

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note or seeme to fall, it argueth wynde in that part. If in diuers
laces, inordinate wyndes, if in all places, then pronounce winde,
thunder, lightnings, yea weather most tempestuous.

The significations of comets.

Comets signifie corruption of the ayre. They are signes of
Earthquakes, of warres, changing of kingdomes, great
earth of Cozne, yea a common death of man and beast.

Pontanus sic scribens: Ventorum quoque certa dabunt tibi signa
cometa: Illi etiam belli motus, feraeque arma minantur, Magnorum
lades populorum, & funera regum; aquarum significat penuriam.

De cometarum
prodigijs. lege
Cardanū lib. 4
Fol. 83. & An-
tonium Mizal-
dum de Come-
tographia.

**How by the Cloudes, chaunge of wea-
ther is perceyued.**

If thicke cloudes resembling flockes, or rather great heapes of
wool, bee gathered in many places, they shew rayne. Also when
rosse, thicke, darke cloudes, right ouer the North part, or some-
what declining to the Weste are close with the Earth, immediat-
followeth rayne. If they appeare like Valles, some deale from the
earth, a good token of weather ouerpassed. Black cloudes, signifie
rayne. White cloudes appearing in winter, at the Horizon, two or
three dayes together, prognosticate cold, and snowe.

**Of the Raynebowe and his effect touching
alteration of ayre**

If in the morning the raynebowe appeare, it signifieth moysture,
unlesse greate drought of ayre worke the contrary. If in the eue-
ninge it shew it selfe, sayre weather ensueth, so that abundant moyst
ayre take not away the effect.

Arcus nisi sol
aduerso non
fuit.

Or thus.

The raynebowe appearing, if it be sayre, it betokeneth foule wea-
ther: if foule, looke for sayre weather, The greener, the more
ayre: redder, winde.

Non apparet
nisi cum vapo-
res ratificantur
vel inspissantur.

Of thunders what they signifie.

Thun-

A generall Prognostication

Signum fum-
roru bellorum.

Thunders in the morning, signify wynde: About noone, raine: In the Evening great tempest. Some write (their grounde I see not) that Sondayes thunder, shoulde byng the death of learned men, Iudges and others.

Mondayes thunder, the death of women.

Tuesdayes thunder, plenty of grayne.

Wednesdayes thunder, the death of harlots, and other bloudshed.

Thursdayes thunder, plenty of sheepe and corne.

Frydayes thunder, the slaughter of a great man, and other horrible murders.

Saturdayes thunder, a generall pestilent plague and great death.

*How weather is knowen after the
chaunge of euery Moone by the
Prime daye.*

Sunday Prime, dry weather. Monday Prime, moyste weather.

Tuesday Prime, cold and windy. Wednesday Prime, wonderful.

Thursdayes Prime, fayre and cleare. Frydayes Prime, mixt wea-

ther. Saturday Prime, moyste weather.

*Now ensue extraordinary tokens
for the knowledge of weather.*

Common to-
kens of vnea-
ther meete for
all manner of
vits.

Some haue obserued euil weather to follow, when as watry
foules leaue the Sea desyring land: the foules of the land fly-
ing high: the crying of foules about waters making a great noise
with their wings: Also y^e Seas swelling wth vnaccustomed waues:
If beastes eate greedily: If they licke their hooues: if they sodayn-
ly moue here and there making a noise, breethinge by to the ayre
with open nostrils: rayne foloweth. And the busp heauing of
Moules: the appearing or comming out of wormes: Pennes re-
sorting to the pearch or rest couered with dust, declare rayne.
The ample working of the Spinner in the ayre: the Ant busied
with her egges: the Bees in fayre weather, not far wandring:
the continuall prating of the Crow, chiefly wile or chyle quick
calling, shew tempest. When the Crow or Rauen gapeth against
the Sunne in somer, heate followeth. If they busie themselves

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in prouing or washing, & that in winter, looke for rayne. The vnac-
customed noise of Poultry, the noise of Swine, of Decoks, declare
the same. The Swallow flying and beating y^e water, the chirping
of the Sparow in the morning, signify rayne. Rayne sodenly dried
vp. Moody couerings straighter then of custom. Belles heard fur-
ther then commonly. The wallowing of Dogges, the alteration of
the Cock crowing, all declare rainy weather. I leaue these, wan-
ting the good ground of the rest. If the learned be desyrefull of the
aforesayde, lette them reade graue Virgill, Primo Georgico-
rum. At Bor. &c.

There be a multitude of other not extraordinary, but of the best
known causes: many for breuity heere omitted, the most part
not mentioned, because they passe the capacity of the common sort,
vpon all the which the Astronomer doth well and learnedly con-
clude. I doubt not, there be also sometime vnkown matters, mit-
tigating the aforesayd, or prouoking tempest vnlooked for, which
neither experience, ne learning hath established. How vnkinde
(these considered) yea how far from worthy thanks geuing are
they, which in generall headdely doe blame, checking bitterly the
Astrologer, with these Iudiciary matters (the least part among a
number of his most certayne doings) when thinges fortune con-
trary to expectation: Understande (gentle Reader) the consent of
a multitude famously learned is their buckler, euen in these mat-
ters iudiciary, who haue wayed a longe time prudently, the
greate strength, the vehement force, and maruailous natures, of all
erraticall, and celestiaall constellations, with their Angles, Ra-
diations, Aspectes, Affections, Stations, Progressions, De-
fections, Dispositions, Applications, Preventions, Refrenari-
ons, Contrarieties, Abscissions, Coniuntions, Quadratures, and
Oppositions. &c. Therefore extreame folly, yea more then madness
doth hee breer, which imbraydeth or backbiteth these knowledges,
not remembryng the great and manifold benefits had throughe
them, and that with most certaynty in all other doinges.

What Meteoroscooper, yea who learned in matters Astro-
nomicall, noteth not the great effectes at the rising of the Starre
called the litle Dogge? Truly the consent of the best learned doe
agree of his force, yea Plinie, in his history of nature affirmeth the
Seas then most fierce, wines to flow in cellers, stauinge waters

Canis minoris
efficacia.

A generall Prognostication

Orionis, Ar-
cturi, Coronæ,
Capræ, Suci-
laram effectus.

♂ ☐ & ♀ ☐ Th
cum ☉, aut ☎.

♂ ♃ ☐ & ♀ ☐
cum ☉ aut cum
☉ &c.

to moue, dogges enclined to madnes, then most wood. Farther these constellations, Oriō, Arcturus, Corona, ryling prouoke tempestuous weather. The Kid and Goat, Windes. Hyades, or Succulie rayne. What Meteorologer consenteth not to the great alteration and mutation of ayre, at the coniunction, opposition or quadrate aspect of Saturne, with either two lightes? Who is ignorant, yea meanly trauayled in Astronomy, that Jupiter with Mercurie or with the Sunne, enforceth rage of windes? What is hee that perceiueth not the fearfull thunders, lightnings and raynes at the meeting of Mars and Venus, or Jupiter and Mars? &c. Leauē for shame to oppugne these iudicials strongly authorisēd. We that any other part carpeeth, may seeme more then mad. All truth, all experience, a multitude of infallible grounded rules are against him. *Certum est omnibusque notum, quod cœli motus, signorum ortus & occasus, planetarū aspectus, & coniunctiones, luminarium Eclipses, &c, certissimam, determinatam, ac infallibilem habent causam. Quis iam sana mentis negabit eorum effectus saepe innotescere, utpote bella, famēs, grandines, aeris perturbationes, elementorum commotiones, terræ motus, & similia? Positis causis naturalibus, & non impeditis, sequitur effectus.*

The learned that listeth ingeniously to prognosticate of weather, will not onely discretely way all before wyten, but consider also with them the aspectes of the Planets folowing, and their Coniustion in the xii. Signes, with the coniunction of fixed Starres, mansions of the Moone, Ascendent, Climes, &c. Also the times or quarters of the yeare must bee noted diligently (as ensueth) and iudgement accordingly pronounced.

Of the yeare deuided into 4 quarters.

VIII power
ouer the breitt.
S. N. M.

III power
ouer the
all humes.

The Spring time is hote and moyst, and continueth so longe as the Sunne is in Aries, Taurus & Gemini, which is from the tenth of March vnto the xii of Iune. The Sommer is hote and drye, computed from the beginninge of Cancer, to the ende of Virgo, that is from the twelch of Iune to the fourteenths of September. Winter is cold and drye, computed from the beginninge of Libra to the end of Sagittary, counted from the 14 day of September to the thirteenth of December. Winter is cold and moyst, con-

tinued

tinued from the beginning of Capricornus, to the end of Pisces, y
is, from the twelfth of December, to the tenth of March.

Here follow the aspects of the Planets for
the better iudgment of VVea-
ther.

BEfore I declare of Planets and the signification of a-
spects, it behoueth briefly to open what I call Planets,
and what aspects, and how they are characted and fi-
gured. Understand there be seauen moueable Starres
pleasaunt to the sight called Planets: the highest Saturn, ♄ then
Jupiter ♃. Mars. ♂. Sunne. ☉. Venus. ♀. Mercury, ☿ & the
Moone. ☾ next to the Earth

Now when I desire to expresse Saturne. I write this figuer. ♄.
for Jupiter this. ♃. for Mars this. ♂. Thus of the other as their
Charecters declare. All Radiations or aspectes are expressed as
follow. A Coniunction is thus figured. ☿. and it is when an other
Planet is ioyned with the Sunne or Moone, or others amonge
themselues, within one degree or lesse.

The Sextile Aspect, or Radiation, is thus expressed *, and
it is within. 60. degrees the one from the other. The Quadrate a-
spect thus ☐, 90 degrees distant. The Trine thus ☐, seperated
120. degrees. The Opposition thus ☐, 180 degrees y one is di-
stant from the other.

Lo here they follow in order: the charecters of the Planetes, and
Signes also.

☿ * ☐ ☐ ☐
Coniunction, Sextile, Quadrate, Trine, Oppositio.

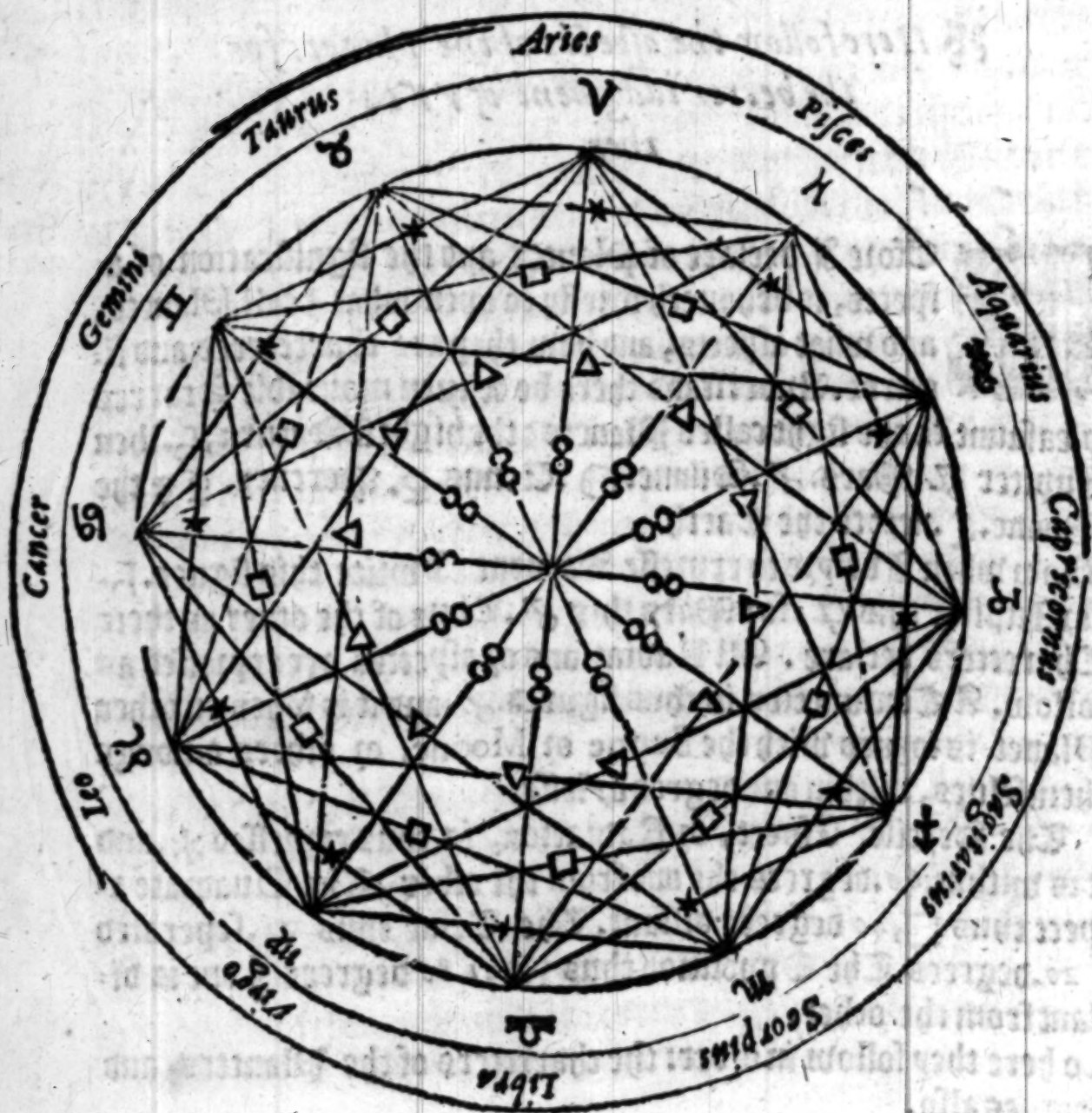
♄ ♃ ♂ ☉ ♀ ☿ ☾
Saturn, Jupiter, Mars, Sunne, Venus, Mercury Moone.

♈ ♉ ♊ ♋ ♌ ♍
Aries, Taurus, Gemini, Cancer, Leo, Virgo

♎ ♏ ♐ ♑ ♒ ♓
Libra, Scorpius, Sagittarius, Capricornus, Aquarius, Pisces.

A generall Prognostication

Yet for more playnesse behold this figure.



The signification of aspects of Planets among themselves: for the iudgment of weather.

The coniunction or meetinge of Saturn with Iupiter, in fiery signes, enforceth great drought. In watry signes, floudes, continuall rayne, generall overflowings. &c. In ayrie signes, plenty of wyndes.

The

The Q
ter, in m
Rayne,

The
Mars, in
with H

The
the Sun
Rayne

The
Venus
Signe

The
Mercur
drought

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The Quadrature, Sextile, or Opposition of Saturn with Iupiter, in moyste Signes, causeth troubled Ayre, by Hayle, Winde, Rayne, Thunder. &c. before & after.

h □ * & ∞,
cum ♄.

The Coniunction, Quadrature, or Opposition of Saturn, with Mars, in watry Signes, declare in Sommer Rayne, often shoures with Hayle, Thunder and Lightning.

h ♂ □ & ∞,
cum ♂.

The Coniunction, Quadrature, or Opposition of Saturn, with the Sunne, chiefly in colde Signes, shew darke weather, Hayle, Rayne thunder, and colde dayes.

h ♂ □ & ∞,
cum ☉.

The coniunction, Quadrature, or Opposition of Saturn, with Venus, in winter, engender cold and raine, principally in moist Signes: in Summer, mitigation of heat.

h ♀ □ & ∞,
cum ♀.

The Coniunction, Quadrature, or Opposition of Saturn with Mercury, in watry Signes, bring raine: in hotte or dry Signes, drought: in Sommer, Thunder, lightnings & tempest.

h ♂ □ & ∞,
cum ♄.

The Coniunction, Quadrature, or Opposition of Iupiter with Mars in moyst Signes, declare thunders, lightnings and rayne: in winter snow, or cloudy thicke weather.

♃ ♂ □ & ∞,
cum ♂.

The Coniunction, Quadrature, or Opposition of Iupiter with the Sunne, great and most belement wyndes.

♃ ♂ □ & ∞,
cum ☉.

The Coniunction, Quadrature, or Opposition of Iupiter with Venus, in moyste Signes, cold and missings, in the other Signes sayre weather.

♃ ♀ □ & ∞,
cum ♀.

The Coniunction, Quadrature, or Opposition of Iupiter with Mercury, great wyndes.

♃ ♂ □ & ∞,
cum ♄.

The Coniunction, Quadrature, or Opposition of Mars with Sunne in fiery Signes, drought: in watry, thunder, and rayne.

♂ ♂ □ & ∞,
cum ☉.

The Coniunction, Quadrature, or Opposition of Mars with Venus, in moyste Signes, rayne, and tempest.

♂ ♀ □ & ∞,
cum ♀.

The Coniunction, Quadrature, or Opposition of Mars with Mercury in hotte Signes, great heat: in dry Signes, drought: in watry, Rayne sometimes, Thunders, lightnings, with sodayne fierce wyndes.

♂ ♂ □ & ∞,
cum ♄.

A generall Prognostication

☿ ☊ ☋ ☌ ☍
cum ☌

The Coniunction, Quadrate, or Opposition of Venus with Mercury causeth rayne: in Sommer they prouoke tempest, the more if they agree in watry Signes. Note what is sayd of y^e Coniunction, Quadrate, or Opposition, the same is also ment of the Sextile and Trine, but they are of lesse signification, so the learned noteth.

☿ ☊ ☋ ☌ ☍
cum ☌

*A declaration of Weather by aspects
of the Moone with Planets.*

The Coniunction, Quadrate, or Opposition of the Moone with Saturn in moyst Signes, bringeth a cloudy day, cold ayre. accordinge to the nature of the Signe: If shee goe from Saturn to the Sunne, by coniunction or otherwise, harder weather ensueth.

☿ ☊ ☋ ☌ ☍
cum ☌

The Coniunction, Quadrate, or Opposition of the Moone with Iupiter in Aries or Scorpio, sheweth sayre weather, White dispersed cloudes.

☿ ☊ ☋ ☌ ☍
cum ☌

The Coniunction, Quadrate, or Opposition of the Moone with Mars in watry Signes, raine. In hoate Signes, diuers coloured cloudes are made, all the Element ouer. In Sommer, often thunder.

☿ ☊ ☋ ☌ ☍
cum ☌

The Coniunction, Quadrate, or Opposition of the Moone with the Sunne in moyst Signes, rainy weather. The more if y^e Moone goe from the Sunne to Saturn.

☿ ☊ ☋ ☌ ☍
cum ☌

The coniunction, Quadrate, or Opposition of the Moone with Venus, chiefly in moyst Signes, rayne followeth. The Moone going from Venus and Mars, more variety of weather.

☿ ☊ ☋ ☌ ☍
cum ☌

The Coniunction, Quadrate, or Opposition of the Moone with Mercury in moyst Signes, sheweth rayne and wynde, the more when the Moone passeth from Mercury to Iupiter, then great Wyndes followe.

Howe

How the weather is iudged by the O-
riental and occidental station of Planets, with their
Combustion in the 12. Signes Celestiall. First
of the Planets in Aries.



SATVRN in Aries Combust, that is to say vnder the beames of the Sunne, maketh a cloudy darke, troubled ayre Oriental, I meane in the morning appearing before the Sunne, fayre weather. Occidental, that is to say, shewing himselfe after the Sunne going downe, betokeneth great wyndes.

in ♄

Jupiter in Aries combust, a token of raine: being Occidental, it bringeth cloudes, and dewes; Oriental, fayre pleasaunt weather.

in ♃

Mars in Aries combust and Occidental, good weather: contrary Oriental.

in ♂

Venus in Aries combust Occidental, moppines, great wyndes: Oriental, thunders and raynes.

in ♀

Mercury in Aries combust, Tempest: Occidental and Oriental, fayre windy weather.

in ☿

Of Planets in Taurus.

SATVRN in Taurus combust, and stationary, bringeth thick cloudes, thunders and troublesome weather.

in ♄

Jupiter in Taurus combust, indifferent weather: Occidental, pleasaunt showres.

in ♃

Mars in Taurus combust, a quiet ayre: but Oriental, windy.

in ♂

Venus in Taurus combust, thunders &c. Occidental, fayre.

in ♀

Of the

A generall Prognostication

Of the Planets in Gemini.

♄ in ♊

SATVRN in Gemini combust and Occidentall, drought.

♃ in ♊

Iupiter in Gemini combust, a good signification.

♂ in ♊

Mars in Gemini combust and Occidentall, heate.

♀ in ♊

Venus in Gemini combust and Occidentall, wynde.

☿ in ♊

Mercury in Gemini combust, wynde.

Of the Planets in Cancer.

♄ in ♋

SATVRN in Cancer combust, darck weather, great windes and troublesome weathers: Occidentall, caulmer.

♃ in ♋

Iupiter in Cancer combust, bringeth caulme & pleasaute weather,

♂ in ♋

Mars in Cancer combust, great heate.

♀ in ♋

Venus in Cancer combust, a quiet caulme time.

☿ in ♋

Mercury in Cancer combust, tempestuous weather, chiefly on the Sea: Occidentall, caulmer.

Of the Planets in Leone.

♄ in ♌

SATVRN in Leone combust, maketh wyndes and mycelinges.

♃ in ♌

Iupiter in Leone combust, pleasaute wyndes,

♂ in ♌

Mars in Leone combust, Occidentall, drought.

♀ in ♌

Venus in Leone combust, drought.

☿ in ♌

Mercury in Leone combust, wyndes,

Of 7

Of the Planetes in Virgo.

SATVRNE in Virgine combust, is a significant of infirmities.

♄ in ♍

Jupiter in Virgine combust, manifesteth abundance of things.

♃ in ♍

Mars in Virgine combust, lyke vnto Saturne.

♂ in ♍

Venus in Virgine combust, brought: Oriental, contrary.

♀ in ♍

Mercurie in Virgine combust, brought, raging & was: Occidental, brought.

☿ in ♍

Of the Planetes in Libra.

SATVRNE in Libra combust, sheweth infirmitie of sight: Oriental, colde wyndes.

♄ in ♎

Jupiter in Libra combust, indifferent weather,

♃ in ♎

Mars in Libra combust, byngeth moysture.

♂ in ♎

Venus in Libra combust, moyst ayre.

♀ in ♎

Mercurie in Libra combust, wyndes.

☿ in ♎

Of the Planetes in Scorpione.

SATVRNE in Scorpio combust, ayre: Occidental, frost: Oriental, colde north wyndes.

♄ in ♏

Jupiter in Scorpio combust, rayne: Occidental, bitter weather.

♃ in ♏

Mars in Scorpio combust, declareth moysture: Oriental, wyndes.

♂ in ♏

Venus in Scorpio combust, rayne, both Occidental, and Oriental.

♀ in ♏

Mercurie in Scorpio combust, ragyng weather, chiefly Oriental, D.

☿ in ♏

Of the

A general Prognostication

Of the Planets in Sagittarius

SATVRN in Sagittarius combust, colde rayne: *Oriental*, colde and frost.

Iupiter in Sagittarius combust, much raine: *Oriental*, worse weather.

Mars in Sagittarius combust, drought.

Venus in Sagittarius combust, rayne: *Occidental*, wynde and colde.

Mercury in Sagittarius combust, rayne: *Occidental*, cleare ayre.

Of the Planets in Capricornus

SATVRN in Capricornus combust, signifieth darke weather, with South wyndes: *Occidental*, colde: *Oriental*, north wyndes.

Iupiter in Capricornus combust, most ayre: *Occidental*, increasing the same.

Mars in Capricornus combust cloudy: *Occidental* some heate.

Venus in Capricornus combust, colde ayre: *Oriental*, rayne.

Mercury in Capricornus combust rayne both *Oriental* and *Occidental*.

Of the Planetes in Aquarius

SATVRN in Aquarius combust, colde ayre: *Occidental*, dangerous Seas: *Oriental*, rayne.

Iupiter in Aquarius combust, *Occidental* rayne.

Mars in Aquarius combust, drought: *Occidental* and *Oriental*, plenty of wyndes.

Venus in Aquarius combust, cloudy: *Occidental* hot: *Oriental*, rayne.

Mercury in Aquarius combust, snow: *Occidental* more colde: *Oriental*, rayne.

Of the Planetes in Scorpio

Of the Planets in Pisces.

SATVRN in Pisces combust, bringeth cloudes: Occidental, rayne.

♄ in ♋

Jupiter in Pisces combust Oriental, calme waters.

♃ in ♋

Mars in Pisces combust Occidental, drought: Oriental, lightning and thunders.

♂ in ♋

Venus in Pisces combust, colde: Occidental, disposed to snowe.

♀ in ♋

Mercury in Pisces combust, moyst ayre.

☿ in ♋

Thus much of the Iudgment of weather.

SEYNG that I haue nowe sufficiently declared how, by what rules & tokens, weather is iudged: I thinke it conuenient to adioyne here a brieffe collection, how Plentie Scarcitie Sicknes, Death, Alterations, Troubles, Warres, & c. shal be foretold.

A rule to Prognosticate the afaires by the falling of Neweyeres daye.



It is affirmed of some, when Neweyeres day falleth on the Sunday, then a pleasaunt Wynter doth ensue: a natural Sommer: fruite sufficient: Harvest indifferent, yet some wynde and rayne: many Mariages: plenty of wyne and Hony: death of Yong men, & Cattel: robberies in most places: newes of Prelates, of Kynges: and cruell Warres in the end.

On Monday, a Wynter somewhat uncomfortable: Sommer temperate: no plenty of fruite: many families & tables open: agues shall reigne: Kynges and many others shall die: Mariages shal be in most places: and a common fall of Gentlemen.

On Tuesday a stormy Wynter: a wet Sommer: a diuers Harvest: corne and fruite indifferent, yet herbes in gardens shall not flourish: great sickenes of men, women, and yonge chyldren.

A Generall Prognostication

Beastes shall hunger & die, and dye of the botch: many Shyppes, Galleis, and Vulkes, shalbe lost: And the bloudy Flyxes shall kyll many men: All thinges decre, save Corne.

Wednesday

On Wednesday, Loe a warme wynter: In the end, snowe and frost: a cloudy Sommer, plenty of fruite, of Corne, Haye, Wyne, and Hony: great payne to women with childe, and death to infants: good for the peynes of the greatest watter, bacell and slaughter toward the myddes.

Thursday

On Thursday, Wynter and Sommer wyndy: A rayny Harvest: Therefore we shall have overflowinges. Much fruite: plenty of Hony: Yet flesh shalbe deare: cattell in generall shall dye: great trouble, warres, &c. With a licentious life of the feminine Sexe.

Fryday.

On Fryday, Wynter stormy: Sommer scant pleasant: Harvest indifferent: little store of fruite, of wyne, and hony: come deare: Many beare eyes: Pouth shall dye: Earthquakes are perceived in many places: plenty of thunders, lightninges, and tempestes: with a sudden death of cattell.

Saturday.

On Saturday, a meane Wynter: Sommer very hote: A late Harvest: good cheape garden herbes: much burning: plenty of Henpe, Flax, and Hony. Olde folke shall dye in most places: Feuers and Tercians, shall greve many people: great muttering of warres: murders shalbe suddenly committed in many places, for lyght matters.

Now that I have opened dyvers wayes, both for the learned and unlearned, how weathers to come at all times may be well judged and knowne. &c. I thought it meete, for farther knowleng therein, not to omitte here the naturall causes of such and so many alterations of ayre. Loe, therefore orderly they folowe.

Naturall

Naturall causes, conducing to all the aforesayd:
and first of the Raynbow.

The Raynbow is the shyning and rebounding of beames of light, that tourne to the contrary vapour agayne in the cloude. It declareth sometime raine; and many times fayre weather: whe the one, and how the other, is before opened.

Of rayne.

Rayne is a colde vapour, an earthy humour, or fumosities, oue of waters or earth drawne by by the vertue of the Sunne, to the neather part of the middle space of the ayre, there through colde thickened, then dissolved: Thus rained out falleth on the earth. Where I leane to speake of miraculous raines, as, Pilke, Blood, Flesh, Wax, Wooll, &c. & of more satisfying in these, reade Plynius in the second Booke. 5. Chapter.

Of Frost and Dew.

A Colde moyste vapour, a litle way drawen up in the day through faynt heate of the Sunne, descendeth in the night, dissolved on the earth, there congelated or resolved into water, the one called Frost, the other Dew. The last is a signe of fayre weather in the Spring or Harvest.

Of Snowe.

It is a moiste vapour, drawen up to the middle region of the ayre, then thickened, and frozen into the body of a cloude: So congelated descendeth.

Of Hayle.

A Cloude resolved into water, in the fall congelated, maketh Hayle. The hygher it commeth from aboue, and the longer it stayeth in the ayre, the rounder hayle.

D. iii.

VV
cibaled

i bombant
inor 3dun
in 3d, unum
romon 3dun

Quare lapides
pluant, lege
Pli. Lib. 2.
Cap. 44.

Ros estate,
pruina hieme
fit.

Nix, humor
modice con-
creuit.

Grando, plu-
uia in descensu
congelata.

A generall Prognostication

Of Wyndes

Ventorum ergo materia, calida & sicca exhalatio.

Quemadmodum in nube tonitruum, sic in terra tremor.

Signa terræ motus.

Wynde is a multitude of drye exhalations, drawn by from the earth: and about the earth enforced here and there.

Of Earthquakes, in the moste quiet tyme.

Plenty of wyndes, entered into holes, cones, or caues of the earth, which absent from about the earth causeth quietnes: the violent bursting out of them (the earth closed againe) is the Earthquake: *Signum est futurorum bellorum.*

Tokens of Earthquakes to come.

Any cloude, appearing in element like a lytle Pyllar, is a token of Earthquakes to come. The obscuritie or darknes of the Sonne, without cloudes, and straungly coloured, cloudy or otherwise, is a token of Earthquakes.

Also when Well water & others are troubled, or salt, or infected by sauer &c.

A great quietnes of ayre by lande and sea, any chiefly the longe absence of wyndes.

Also straunge noises heard, as clamours of men, rushing of harnes, mournings, lamentations &c. All these have bene obserued to signifie Earthquakes at hande.

Of Thunders and Lightnings

Fulgur prius cerni, quam tonitruum audiri, cum simul fiant certum est. Plin. lib. 3. Cap. 16. Contra Aristot.

Thunder is the quenching of fyre in a cloude. Or thunder is an exhalation hote and drie, mixt with moisture, carried by to the Myddle region, there thyecked and wrapped into a cloude: of this hot matter coupled with moistnes closed in the cloude, groweth a sturpe, the heate beating, and breaking out the sydes of the cloude with a thundring noise: the fyre then disperled, is the lighninge.

Thus for the learned: *Tonitruum sonitus est, qui editur quando nubem rumpit halitus. Fulmen flamma, vel reperiuntur est ignis, qui ex collisione nubium aut ruptura nascitur.* Aristotle affirmeth the lighninge after thunder, but the fyre doth fyrst appeare, in that the light is before the hearynge. If this satisfie not, reade the second of his Meteoron. Here foloweth a note of lighninges.

There

There be three kyndes of Lightnings,

dry, moyste, and cleare.

DRy doe not burne but cleave, part oꝝ deuide. Moyste burne not, but alter colour. The cleare are of maruaylous natures: Full barrells by it are emptied. It melteth money in the purse, it breaketh the sword, the purse and scaberd not perished, yea wape in them vnmolten.

Note.

Of the Comets or flames in the night.

A Comet is a flame working in a dry, hot, stinky exhalation, drawn vp to the highest part of the ayre. His matter oꝝ substance after it is bzent, and dispersed prouoketh wyndes.

Ventorum
causa.

The naturall cause of the Sunne eclipsed.

Nothing else is the Eclips of the Sunne, but the direct putting the body of the Moone betweene the Sunne and y^e Earth, oꝝ betweene our sight and the Sunne, which chaunce onely at the chaunge.

A Corollarie.

By this, gather the darknesse at Chrystes death not to stand by naturall eclipticall cause: but by supernaturall, oꝝ miracle.

Miracle.

For it was at y^e full Moone, Scriptures witnesse: which enforced *Dianisus Arcopagus* at the time of his passion, to speake thus: *Idus Dei natura parturient mundi machina dissoluitur.*

The cause of the Moone eclipsed.

The Sunne being in the contrary poynte to the full Moone, enforce the shadow of the earth then directly put betweene the Sunne and the Moone, towarde the Moone, bydinge more oꝝ lesse of the Moone, as shee differeth from the Eclipticall. Some obserue pestilent plagues, sodayne battayle, great dearth, to ensue these Eclipses: which all I desire **G O D** to auert from his chosen. Many other thinges by these Eclipses are gathered, as Longitudes of Countreies, the Quantitie of the Sunne, containinge the bignesse of the Earth 162. tymes: the compasse of the

Vniuersalis est
Eclipsis Lunæ.
Non semper in
nouilunio, sed
in capite &
cauda.

A Generall Prognostication

the Earth 21600. miles: whose thynknesse, according to Archime-
des rule is 6872. miles, and eight eleuenthes of a mile.

Omnium pla-
netarum ad
terram magni-
tudo.

The quantity of the Moone is the 4. part of the earth.

The Sunne containeth the Globe of the Moone 7000. times.

Saturnus comprehendeth the bignesse of the Earth 2. times.

Iupiter, 75. times. Mars, once, and ten sixteenths. Venus, the 37.

part. Mercurius, one, 32000. part of the Earth.

Note here, that Alfraganus affirmeth the leaste fixed Starre
perfectly seene, as bigge as the whole Earth.

Dimetiens ☉
ad terræ dime-
tientem vnde-
cim ad duo.

Hæc non erunt admirationi, si globi capacitatem ex longitudine
diametri quesieris. Continet enim solis dimetiens terræ dime-

Cubus ☉ 1313
Terræ, 8.

entem quinquies & semissem. Estq; proportio diametri Solis ad terræ

dimetiens, quæ est numeri undecim ad duo, quintupla sesquialtera.

Cubus solis mille tercentum unâ & triginta partes tales continet, cu-

iusmodi terræ cubus octonas complectitur. Cubus enim numeri unde-

cim, est mille tercentum unâ & triginta. Cubus vero binary, qui est

terra, octo. Subducto quoties id fieri potest, minore cubo qui est terra, a

maiore qui est solis, cognoscitur cubi ad eundem proportio, & quanto Sol

maior terra sit. Inuenimus ergo octaconties, sexagies sexies, in mille

tercentum unâ & triginta.

Dimetiens ter-
ræ ad diam. ☾
17. ad 5. Cubus
terræ 149 13.
Cubus ☾ 125.

Terræ Diametros. Luna dimetiens terræ, & duas

ius diametri portiones quintas, estq; ea proportio dimetiens terræ ad

Luna diametrum, quæ est septendecim ad quinque tripla super bipar-

tiens quintas. Cubus numeri septendecim est quater mille nonaginta

terdecim. Cubus numeri quinque est centum viginti quinque. Maiore

cubo per minorem distributo, reperimus numerum centum viginti quin-

que, tricies nonies in quater mille nonaginta terdecim: quod paululum

a superioribus observationibus differt.

The quantities, or rather true proportion of all

the Planets unto the earth, ocularly de-

monstrated by figure follow-

ing.

The

The globe of
the Sonne

Earth

Venus or the Moon

The globe of
Saturne or
Iupiter

Mercury is but a pointe in respect of these Quantities.

By

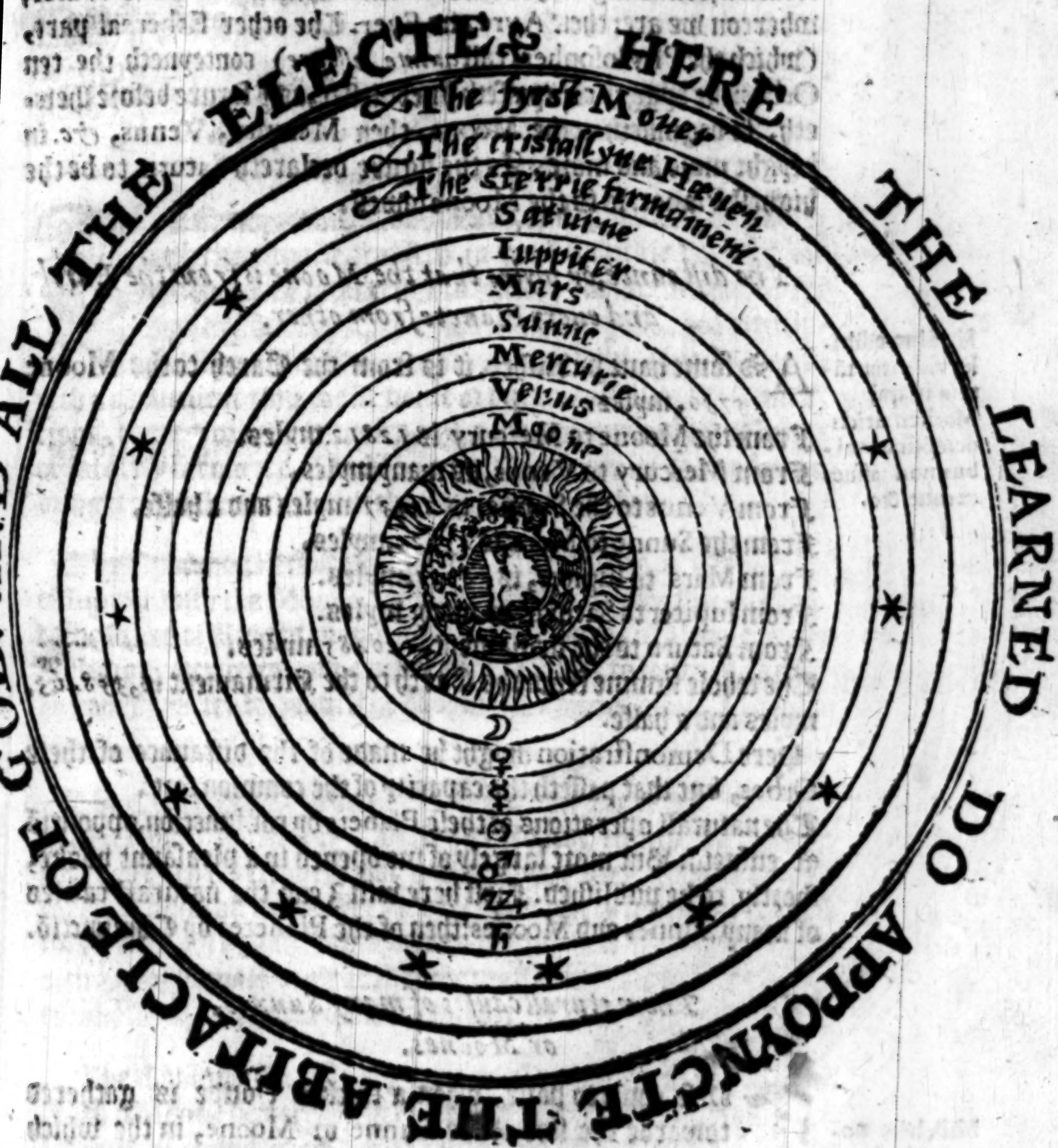
A generall Prognostication

By these five Globes are represented the true magnitudes of the seven Planets. One Globe of like magnitude appoynted for Saturn and Iupiter: Euen so for the Moone & Venus: the rest haue severall Globes, (as yee may see) according to theyr quantities.

The nature, course, colour, and placing of these seven Planets, according to Ptolome.

- ♄ **S**ATURN is the highest and slowest in proper motion, colde, dry, and pale, like vnto Lead colour, requiringe thyrty yeaeres to end his course. Di. 9. ad 2.
- ♃ **I**upiter is next vnder Saturn temperate, fayre and bright: his course is performed in 12. yeaeres. Di. 32. ad 7.
- ♂ **M**ars is hote and dry of fiery coulour, in two yeaeres endeth his course. Di. 7. ad. 6.
- ☉ **T**he Sunne is placed in the middle of all the Planets: most cleare and bright, the well of pure light: euery yeaere finishing his course. Di. 11. ad 2.
- ♀ **V**enus is next to the Sunne colde, moyste, and cleare: yea more bright then Iupiter, hir course is like vnto the Sunnes: neuer about 48. degrees from the Sunne: called the morninge starre when she goeth before the Sunne, coming after the Sunne she is named the euening starre. Di. 3. ad 10
- ☿ **M**ercury is next vnder Venus, somewhat shyninge, but not very bright: neuer about 29. degrees from the Sunne, his course is like to Venus, or the Sunnes motion.
- ☾ **T**he Moone is lowest of all the seven, running ouer the whole Zodiacke in 27. dayes, and choyces, and somewhat more. Di. 5. ad 17.

For more playnnesse of that which is opened, nowe shall follow a figure by the which yee may perceyue how the Orbe of the one Planet compasseth the other. Also, how these Planets are placed in the Heauen: yea, which Planet is highest from the Earth, and which nearest vnto vs. Consider well this figure, so needeth no farther declaration.



A generall Prognostication

See may here beholde first the Elemental part subiecte vnto alteration, consisting of the foure Elementes, first Earth and Water, whercon we are: then Ayre and Fire. The other Ethereal part, (which the Philosophers call *quinta essentia*) conteyneth the ten Orbes: the bigger compasseth ynto lesser, as a figure before the window. It beginneth at the Moone, then Mercury, Venus, &c. in height more and more. As the figure declareth Saturne to be the highest Planete: so is the Moone lowest.

The distaunce, or myles that the Moone is from the Earth, and euery Planete from other.

Hæc incredibilia videntur tantum ijs qui Mathematicis demonstrationibus non assueuerunt. &c.

As some haue published, it is from the Earth to the Moone 15750. myles.

From the Moone to Mercury is 12812. myles.

From Mercury to Venus, as many myles.

From Venus to the Sunne, is 23437. myles and a halfe.

From the Sunne to Mars, is 15725. myles.

From Mars to Iupiter, is 78721. myles.

From Iupiter to Saturn, as many myles.

From Saturn to the firmament, 120485. myles.

The whole summe from the Earth to the firmament is, 358463. myles and a halfe.

Here Demonstration might be made of the distaunce of these Orbes, but that passeth the capacity of the common sort.

The naturall operations of these Planets by coniunction, opposition &c. ensueth: But more largely of me opened in a pleasant booke, shortly to be published. First here will I end the naturall causes of many Sunnes and Moones: then of the Planets by Coniunctio.

The naturall causes of many Sunnes, or Moones.

Milichius noteth the kinge of Pole to haue scene .6. Sunnes at once.

These come to passe, when a thick cloude is gathered towarde the side of the Sunne or Moone, in the which the broken beames of the Sunne doe leaue the fashion and very forme of that Sunne. Thus as foloweth, sayth Plinius in his seconde booke of the history of Nature, and thirty one chapter. No more Sunnes are perceyued in our time then three: and

and they are neuer scene, either aboue or beneath the Sunne, but
of the sides: neuer in the night, but onely at the Sunne rising
or going downe.

*What is to bee chosen or auoyded vnder euery aspect of
the Moone, with her signification in the 12 signes
touching the same.*

The Coniunction, Quadrature, or Opposition of Saturn
with the Moone, causeth an euill vnluckie daye for all
matters. Leane therefore to haue to doe any manner way:
nothing shall prosper or come well to passe then attempt-
ed. Yet the Sextile or Trine of Saturn with the Moone, decla-
reth a conuenient time to till, delue or digge, to sow, to lay founda-
tions, to erect or repay houses, yea, a meete time to obtaine suites
of fatherly farmours. The Moone in Capricornus or Aquarius,
bringeth this latter effect of the Sextile and Trine.

The Coniunction, Sextile, Trine, Quadrature or Opposition
of Iupiter with the Moone, sheweth a fortunate day, chiefly to ob-
taine suites of Kinges, noble Princes, Prelates, of Lawyers and
Religious persones: and a meete time to study, to iourney, to take
an honest matter in hand. The Moone in Taurus, in Leo, or Sagit-
tarius, sheweth the same.

The Coniunction, Sextile, Trine, Quadrature or Opposition
of Mars with the Moone, warneth thee not to matche thy selfe
that day with warriours: not withstanding very good and moste
meet to finish all maner fiery workes, naught to iourney: yet most
conuenient for valiant Captaynes to worke their feat, to leade, en-
courage or stomach their souldiers: moste vnmeet to treat peace,
to take let uauntes or to seeke friendship.

The Coniunction, Quadrature or Opposition of the Sunne
with the Moone declareth a very vnhappy day for all matters: there-
fore attempt nothing, ne any manner suite, neither plant, build, ne
iourney. Yet the Sextile and Trine are very fortunate, specially
to obtain suite of Kinges, Princes, & other Nobles. The Moone in
Aries enforceeth the effect of this latter part.

The generall Kalender

♀ ♂ * △ □
 vel ○ ○ cum D

 The Coniunction, Sextile, Trine, Quadrature, or Opposition of Venus with the Moone, causeth a day most apt to obtayne all suites of women, good to woo, to attempt marriage, and to follow all manner pleasures, and pleasaunt pastimes: not bunnete to hyre seruantes, to let bloud, &c. The Moone in Libra or Pisces prouoketh the like.

♀ ♂ * △ □
 vel ○ ○ cum D

 The Coniunction, Sextile, Trine, Quadrature or Opposition of Mercury with the Moone, promisseth a fortunate happy day to buy and sell: very good to enter children in liberall Artes: an apt time for the Versifier: good to ble Marchandise, to tourney, to send embassage, to giue accoumpts, and such like.

D in II S vel
 m.

 The Moone in Gemini, Cancer, or Virgo, enclineth euen to the same aforesayde.

D. N.

 The Moone with the Dragons head, sheweth a lucky day for all matters: with the taylor, contrary.

¶ Now ensueth a Table shewing what signe the Moone is in, and shalbe for euer: declaring also the meetest time to let bloud, to purge, and to bathe.

The Table hath at the head seuen titles. The first moneths: the second dayes: then the Prime: the twelue Signes: the times to let bloude, to purge, and to bathe.

Here is to be noted, that those dayes are good for these purposes, which be lined with this letter G: and those euill, dayes that are noted with B.

This

This Table declareth for ever, in what Signe the Moone is or shall be at any daye in the yeare. It scrueeth also very well to let Bloud, to Purge, and Bathe.

| Monethes. | Dates. | Prime. | The 12. Signes. | To let Bloude | To Purge. | To Bathe. |
|--------------|--------|--------|-----------------|---------------|-----------|-----------|
| Febr. Noue. | 1 | 3 | Aries. | G | B | G |
| Marche. | 2 | | Aries. | G | B | G |
| | 3 | 14 | Taurus. | B | B | B |
| Decembre. | 4 | 6 | Taurus. | B | B | B |
| | 5 | | Gemini. | B | G | |
| Aprill. | 6 | 17 | Gemini. | B | G | |
| | 7 | 9 | Cancer. | | G | G |
| Maie. | 8 | 1 | Cancer. | | G | G |
| | 9 | | Cancer. | | G | G |
| | 10 | 12 | Leo. | B | B | G |
| | 11 | 4 | Leo. | B | B | G |
| June. | 12 | | Virgo. | B | B | B |
| | 13 | 15 | Virgo. | B | B | B |
| July. | 14 | 7 | Libra. | | | |
| | 15 | | Libra. | | | |
| | 16 | 18 | Scorpius. | | G | G |
| | 17 | 10 | Scorpius. | | G | G |
| Auguste. | 18 | 2 | Scorpius. | | G | G |
| | 19 | 20 | Sagittarius. | G | | G |
| | 20 | 1 | Sagittarius. | G | | G |
| | 21 | 3 | Capricornus. | B | B | B |
| Septembre. | 22 | | Capricornus. | B | B | B |
| | 23 | 16 | Aquarius. | | | G |
| Janua. Octo. | 24 | 8 | Aquarius. | | | G |
| | 25 | | Pisces. | | G | G |
| | 26 | 19 | Pisces. | | G | G |
| | 27 | 11 | Pisces. | | G | G |

A table for letting of bloud.&c.

A general Prognostication

SEEKE out vnder the titles of the moneths, & name of the moneth; whose day you must looke out right agaynst the moneth; vnder the title of dayes, and there beginne to tell downwards 1. 2. 3. &c. to the end, if it so require, and then from the beginninge, if neede bee, vntill you haue reckoned the number of the day that you seeke. Looke what number it falleth vpon in this table vnder the title of daies: that number keepe in minde. Then seeke vnder the title of Prime, the golden number for the yeare right agaynst that, leftward vnder the titles of daies: begin to tell downwards 1. 2. 3. &c. vntill you haue reckoned the number which you did keepe in mind. Against that, towardes your right hande vnder the title of Signes, is the signe wherein the Moone shall be that day. Euen then vnder the other titles, yee shall finde in right order for letting blood, for Purgings, and Bathing, according as they bee noted with G. which is good, and B. signifying bad.

Example.

The sixt day of March in the yeare of our lord 1555 I desire to knowe what celestiaall signe the Moone doth then occupie. I finde first the name of the Moneth, that is, March: and the day as followeth, in the next order of this table. I beginne here to tell right againe my moneth, at the figure of 2. saying 1. 2. 3. &c. so I haue at the end & cownt of six dayes this figure 7. which I keepe in mind. Now I must seeke out the Golden number for y^e yeare afore said, vnder the title of the Prime here, that is 7. against the which on the left side is 6. There you muste begin againe to compe: 1. 2. 3. &c. vntill you come to your number 7. So on your right hand in the rowe or order you shall see Virgo, the celestiaall Signe that the Moone is in: and after that these three letters B which declare bad, or euill to let blood, to Purge, or Bathe, agreeable to the titles in the head. G. there had signified good.

For as much as letting of blood, Purgings, and Bathing, Inundations, Fluddes, Timberfalling, Sowing, Planting, Graffing, Cuttyng. &c. depende chiefly on the Signe wherein the Moone is, which I haue euen before plainly opened: I thought it meete to haue them now orderly touched as followeth.

A conduible note for letting bloude.

Let bloude at noe time without great cause, for it bringeth weakenesse and many infirmities. If yee doe, see it bee after good digestion, and fasting, in a sayre temperate day. Beware before of all maner, exercise, bathings, vatchings, & carnall copulation, &c. After, vse fine meates, of light digestion, abstaining from all the aforesayd, vntill the fourth day.

Malum minui, vel purgationibus vti, tempore caloris, propter defectu humoris.

These Signes are most dangerous for bloud letting, the Moone being in them: Taurus, Gemini, Leo, Virgo and Capricornus, with the last halfe of Libra, and Scorpius. The rest are all good, so the Moone beare no dominion in that member which yee cut: as followeth.

Ill to let bloud in 8
II 9 10 11

Beholde this figure.



Profitable rules

The Dominion of the Moone in mans Body.

Aries
Taurus
Gemini
Cancer
Leo
Virgo
Libra
Scorpius
Sagittarius
Capricornus
Aquarius
Pisces

Head and Face.
Necke.
Armes, Handes, Shoulders.
Breaste, Stomacke, Ribbes.
Heart, Backe.
Bowells, Belly.
Kynnes, Hauill, Buttocks.
Secret members.
Thyghes.
Knees.
Shinnes, Legges.
Feete.

From the chaunge to the first quarter, a meete time to let young men bloude.

From the first quarter to the Full, good for middle age.

From the Full to the last quarter, apt for aged folke.

From the last quarter to the chaunge, best for old men.

Signes meete for the Complexions.

Aries.
Sagittarius.

For the Flegmaticke, the head, & thyghes excepted.

Libra.
Aquarius.

For Melancholike, buttocks and legges excepted.

Cancer.
Scorpius
Pisces.

For Cholerike: breast, members, & feete excepted.

Hee diligence
tissime obser-
uare oportet
solerte Medi-
cum, nisi maio-
ra pericula co-
gant.

For the Sanguine, all be apt that tofore are named good.

In the springe tyme, let bloude at the ryght side.
In Haruest tyme, at the left side.

The learned Phisition will consider, besyde all that is sayd, the Coniunctions, Oppositions, and Quadrat aspectes of the Planetes.

notes with many other things Astronomical, most necessarie,
both in bloudletting, pouring, bathing. &c.

For to take purgations, and to bathe.

The meetest time to take purgations &c. is neither in hot,
nor colde dayes: that is, from the tenth of Marche to the
twelfth of Iune.

Further by rules Astronomical, it must be perfour: Good to purge
med when \bar{p} Moone is in colde, moist, & watry Signes, as, Cancer, \bar{S} m \bar{X} .
Scorpius & Pisces: comforted by aspectes & radiations of planetes,
fortifying the vertue of the body expulsive.

The Moone in Aries, Taurus, and Capricornus, naught. One Bad to Purge
cause of vomiting the purgation is, if \bar{p} Moone haue aspect to any \bar{V} & \bar{W} .
planet retrograde.

The Moone in these Signes folowynge, very good to bathe: Ari Good to bathe
es, Leo, Sagittarius, Cancer, Scorpius, and Pisces. \bar{V} \bar{S} \bar{F} \bar{S}
 \bar{m} \bar{X} .

These ensuyng are evil to bathe: Taurus, Virgo, Capricornus. Bad to bathe
 \bar{V} \bar{S} \bar{F} \bar{S}
 \bar{m} \bar{X} .

Of Inundations or floudde: of tymbre fallyng, sowynge,
plantynge, grassynge, hayre clipping, shawynge,
and geldynge.

The floude is biggest at \bar{p} full: because then dispersynge her ver-
tue, she fylleth all places with moisture. By counnyng experience
loyned with learnynge I knowe, at the full the Moone loveth all
bodys with humours: and so are empied, growing to \bar{p} chaunge.
Of this some gather the fall of tymbre at the chaunge, more to the
purpose then other tymes: wantynge then superfluous moisture, \bar{p}
cause of putrefaction. *Quia a parte ad aliam habet.*
Schoner willetch from the. 15. day unto the. 22. day of the Moone,
trees to be felled, & that after Mydsommer to Ianuarie. So timber
is strong, sounde, and boyde of wormes.

To Sowpe: Taurus, Cancer, Virgo, Libra, & Capricornus, are Good to sowpe
best, in the increase of the Moone. \bar{S} \bar{m} \bar{X} \bar{V} \bar{W} .

To Plante of Grasse, is best when the Moone hath her being
in any fixed Signe, either in Taurus or Aquarius in the increase. To plant or
grasse, \bar{S} \bar{m} \bar{X} \bar{V} \bar{W} .

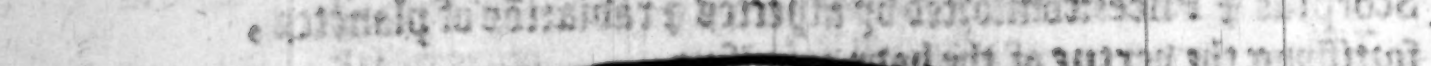
To our hayre
 8 10 12

To our hayre
 & myn

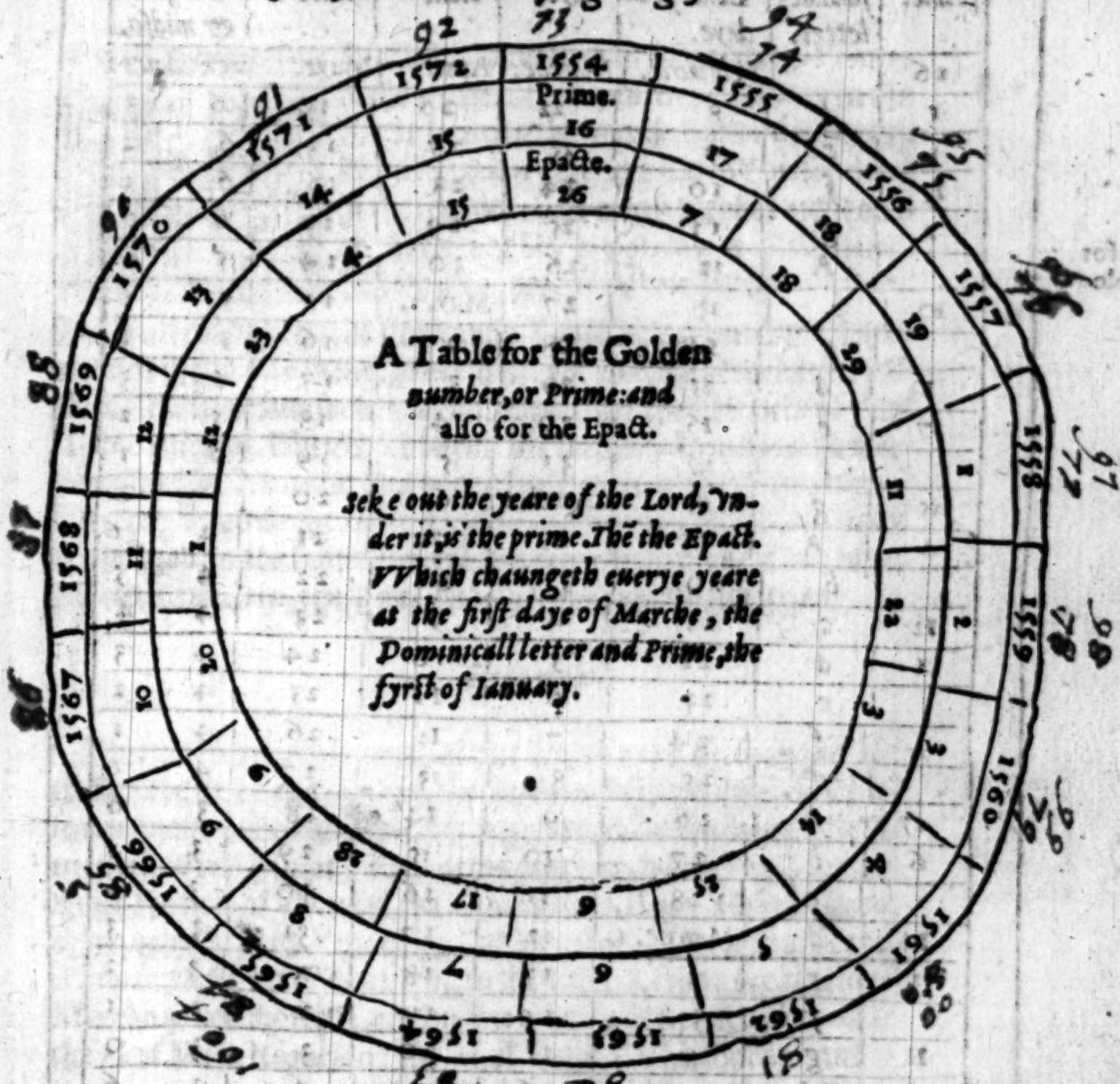
rus Virgo 03 Libra.

28.

1871



*When yee have gone rounde about the yeares
of these two Tables, begin agayne.*



F. III.

the

Profitable rules

A table for
mouable
feastes.

| The prime. | The sondaies letter. | The first Lent son- daye. | Easter. daye. | Rogas- tion. | whitson- tide. | Between whitsond. & midso. |
|---------------|----------------------------|---------------------------------|------------------|-----------------|-------------------|----------------------------------|
| | | Februarie. | Marche. | April. | Maye. | wek. daies |
| 16 | | | | | | |
| 5 | d | 8 | 22 | 26 | 10 | 6 3 |
| | e | 9 | 23 | 27 | 11 | 6 2 |
| 13 | f | 10 | 24 | 28 | 12 | 6 1 |
| 2 | g | 11 | 25 | 29 | 13 | 6 0 |
| | A | 12 | 26 | 30 | 14 | 5 6 |
| 10 | b | 13 | 27 | May. 1. | 15 | 5 5 |
| | c | 14 | 28 | 2 | 16 | 5 4 |
| 18 | d | 15 | 29 | 3 | 17 | 5 3 |
| 7 | e | 16 | 30 | 4 | 18 | 5 2 |
| | f | 17 | 31 | 5 | 19 | 5 1 |
| 15 | g | 18 | April. 1. | 6 | 20 | 5 0 |
| 4 | A | 19 | 2 | 7 | 21 | 4 6 |
| | b | 20 | 3 | 8 | 22 | 4 5 |
| 12 | c | 21 | 4 | 9 | 23 | 4 4 |
| 1 | d | 22 | 5 | 10 | 24 | 4 3 |
| | e | 23 | 6 | 11 | 25 | 4 2 |
| 9 | f | 24 | 7 | 12 | 26 | 4 1 |
| | g | 25 | 8 | 13 | 27 | 4 0 |
| 17 | A | 26 | 9 | 14 | 28 | 3 6 |
| 6 | b | 27 | 10 | 15 | 29 | 3 5 |
| | c | 28 | 11 | 16 | 30 | 3 4 |
| 14 | d | Marche. 1. | 12 | 17 | 31 | 3 3 |
| 3 | e | 2 | 13 | 18 | June. 1. | 3 2 |
| | f | 3 | 14 | 19 | 2 | 3 1 |
| 11 | g | 4 | 15 | 20 | 3 | 3 0 |
| | A | 5 | 16 | 21 | 4 | 2 6 |
| 19 | b | 6 | 17 | 22 | 5 | 2 5 |
| 8 | c | 7 | 18 | 23 | 6 | 2 4 |
| | d | 8 | 19 | 24 | 7 | 2 3 |
| | e | 9 | 20 | 25 | 8 | 2 2 |
| | f | 10 | 21 | 26 | 9 | 2 1 |
| | g | 11 | 22 | 27 | 10 | 2 0 |
| | A | 12 | 23 | 28 | 11 | 1 6 |
| | b | 13 | 24 | 29 | 12 | 1 5 |
| | c | 14 | 25 | 30 | 13 | 1 4 |

*The use of this Table appointed for the
moueable feastes.*



This Table containeth in þ first title, þ Prime:
in the seconde, the Dominicall letter: in the
thirde, Lent: in the fourth, Easter daie: in the
fifth, Rogation daie: in þ sixt, Whitsondaie:
in the senenth, how many weekes and daies
are betweene V Whitsondaie & Midsomer.
Which all appeare by their titles.

Yee shall consider by the litle round Table before put forth, what
numbre the Prime is that yeare, whereof ye require to knowe all
these aforesayde: and seeke that numbre vnder the first title of this
Table ensuyng. Then seeke vnder the second þ Dominical letter
next after the Prime for that yeare: which title ensueth the prime.
Directly against the same Dominical letter, towards your
ryght hand, in the same lyne, yee shal fynde vnder the titles, what
Moneth and daie, every one of these aforesayde shall happen.

Ensample.

I woulde knowe this yeare of our Lorde 1555. these moueable
feastes: the first Lentsondaie, Easter daie, Rogation daies, V Whit-
sondaie, and how many weekes betwixt Whitsondaie & Mids-
merdaie. First I finde þ Prime this yeare 17, which 17 I loke out
vnder the title of Prime in the Table before. Then I seke in þ next
order, and after the Prime, for the Dominical letter that yeare.
Now in right order, according to the title, I fynde the thirde of
Marche to bee the first Lentsondaie: the 14 of April, Easter daie:
the 19 of May, Rogation: the 2 of June V Whitsonday: and 3
weekes & 1 day betwixt Whitsonday, & Midsomerday. Thus
for ever.

Howe

Profitable rules

*How to know the age of the Moone:
then the change, and Quarter
for ever.*

By the pryme
the change is
knowen, but
vncertainly:
therefore here
omitted.



First learne the Epact (as I haue instructed) for that
yeare yee seeke to know the age of the Moone, then
reken how many dayes are past of y^e moneth, which
day yee desyre to knowe the age. Put that number to
the Epact. Then begin at Marche, and reken for
every moneth from him orderly one, untill your sayde day, inclu-
ding both the moneth of Marche, and also the moneth of your sayd
day. Adde all these dayes vnto your former number, putting a-
way as many thirty dayes as yee fynde. The rest, is the age of the
Moone. The Age founde, the change is knowen. If yee adde
seuen dayes to the change, yee haue the first quarter: then seuen
dayes, and somewhat more, sheweth the full: and so to it adding
seuen and more, bringeth the last quarter thus, by seuen vnto the
newe Moone.

Ensample.

In anno Bisex-
tilli vnum adde.

The tenth day of Ianuary, the yeare then being M.D.L.V.
I desier the age of the Moone, I finde the Epact untill Marche
en'uing to be twenty sixe, that adde vnto ten, maketh thirty sixe,
then eleuen for the monethes from Marche to Ianuary, including
both monethes, bringeth forty seuen: now thirty pulled away, lea-
ueth seuentene the age of the Moone.

*Now ensue the perfect tables, declaring the
true houre and minute of ebbing and
flowing in most Coastes of
England.*

| Quin South- ampton. Ports- mouth. | Redban Aberde | Graues ende. | Dūdee. S And. | Age of the Moon | London Timmot Fertle pole. | Ber- wyke. | Erith. Lyeth. Dūbar. | Falmot |
|---|------------------|-----------------|------------------|--------------------|-------------------------------------|---------------|----------------------------|--------|
| South. | S b w. | S S w. | S w b S | | S w. | S w b w | w S w | w b S. |
| H. M. | H. M. | H. M. | H. M. |) | H. M. | H. M. | H. M. | H. M. |
| 12 48 1 | 33 2 | 18 3 | 3 1 | 3 | 48 4 | 33 5 | 18 6 | 3 |
| 1 36 2 | 21 3 | 6 3 | 51 2 | 4 | 36 5 | 21 6 | 6 6 | 51 |
| 2 24 3 | 9 3 | 54 4 | 39 3 | 5 | 24 6 | 9 6 | 54 7 | 39 |
| 3 12 3 | 57 4 | 42 5 | 27 4 | 6 | 12 6 | 57 7 | 42 8 | 27 |
| 4 0 4 | 45 5 | 30 6 | 15 5 | 7 | 0 7 | 45 8 | 30 9 | 15 |
| 4 48 5 | 33 6 | 18 7 | 3 6 | 7 | 48 8 | 33 9 | 18 10 | 3 |
| 5 36 6 | 21 7 | 6 7 | 51 7 | 8 | 36 9 | 21 10 | 6 10 | 51 |
| 6 24 7 | 9 7 | 54 8 | 39 8 | 9 | 24 10 | 9 10 | 54 11 | 39 |
| 7 12 7 | 57 8 | 42 9 | 27 9 | 10 | 12 10 | 57 11 | 42 12 | 27 |
| 8 0 8 | 45 9 | 30 10 | 15 10 | 11 | 0 11 | 45 12 | 30 1 | 15 |
| 8 48 9 | 33 10 | 18 11 | 3 11 | 11 | 48 12 | 33 1 | 18 2 | 3 |
| 9 36 10 | 21 11 | 6 11 | 51 12 | 12 | 36 1 | 21 2 | 6 2 | 51 |
| 10 24 11 | 9 11 | 54 12 | 39 13 | 1 | 24 2 | 9 2 | 54 3 | 39 |
| 11 12 11 | 57 12 | 42 1 | 27 14 | 2 | 12 2 | 57 3 | 42 4 | 27 |
| 12 0 12 | 45 1 | 30 2 | 15 15 | 3 | 0 3 | 45 4 | 30 5 | 15 |
| 12 48 1 | 33 2 | 18 3 | 3 16 | 3 | 48 4 | 33 5 | 18 6 | 3 |
| 1 36 2 | 21 3 | 6 3 | 51 17 | 4 | 36 5 | 21 6 | 6 6 | 51 |
| 2 24 3 | 9 3 | 54 4 | 39 18 | 5 | 24 6 | 9 6 | 54 7 | 39 |
| 3 12 3 | 57 4 | 42 5 | 27 19 | 6 | 12 6 | 57 7 | 42 8 | 27 |
| 4 0 4 | 45 5 | 30 6 | 15 20 | 7 | 0 7 | 45 8 | 30 9 | 15 |
| 4 48 5 | 33 6 | 18 7 | 3 21 | 7 | 48 8 | 33 9 | 18 10 | 3 |
| 5 36 6 | 21 7 | 6 7 | 51 22 | 8 | 36 9 | 21 10 | 6 10 | 51 |
| 6 24 7 | 9 7 | 54 8 | 39 23 | 9 | 24 10 | 9 10 | 54 11 | 39 |
| 7 12 7 | 57 8 | 42 9 | 27 24 | 10 | 12 10 | 57 11 | 42 12 | 27 |
| 8 0 8 | 45 9 | 30 10 | 15 25 | 11 | 0 11 | 45 12 | 30 1 | 15 |
| 8 48 9 | 33 10 | 18 11 | 3 26 | 11 | 48 12 | 33 1 | 18 2 | 3 |
| 9 36 10 | 21 11 | 6 11 | 51 27 | 12 | 36 1 | 21 2 | 6 2 | 51 |
| 10 24 11 | 9 11 | 54 12 | 39 28 | 1 | 24 2 | 9 2 | 54 3 | 39 |
| 11 12 11 | 57 12 | 42 1 | 27 29 | 2 | 12 2 | 57 3 | 42 4 | 27 |
| 12 0 12 | 45 1 | 30 2 | 15 30 | 3 | 0 3 | 45 4 | 30 5 | 15 |
| North. | N b E | N n E | N e b N |) | N E | N e b E | E n E | E b N. |

The first
table of
tyde.

Profitable Rules

| FoyLil. Hüker. weinot. Dertm. Plimot. | | Milfo. Bridgs water. | Portl. Peter. porte. | Age of the Moone. | Orkn. Pole. Ors wel. | Diep. Lux. Les noys. | Boloig. Douer. Harwick Yarmot. | Calice. |
|---|-------|----------------------------|----------------------------|-------------------|-------------------------------|-------------------------------|---|---------|
| East. | Ebs. | EsE | SebeE | | SE | Sebs | SsE | SbE |
| H. M. | H. M. | H. M. | H. M. | ☾ | H. M. | H. M. | H. M. | H. M. |
| 6 48 | 7 33 | 8 18 | 9 3 | 1 | 9 48 | 10 33 | 11 18 | 12 3 |
| 7 36 | 8 21 | 9 6 | 9 51 | 2 | 10 36 | 11 21 | 12 6 | 12 51 |
| 8 24 | 9 9 | 9 54 | 10 39 | 3 | 11 24 | 12 9 | 12 54 | 1 39 |
| 9 12 | 9 57 | 10 42 | 11 27 | 4 | 12 12 | 12 57 | 1 42 | 2 27 |
| 10 0 | 10 45 | 11 30 | 12 15 | 5 | 1 0 | 1 45 | 2 30 | 3 15 |
| 10 48 | 11 33 | 12 18 | 1 3 | 6 | 1 48 | 2 33 | 3 18 | 4 3 |
| 11 36 | 12 21 | 1 6 | 1 51 | 7 | 2 36 | 3 21 | 4 6 | 4 51 |
| 12 24 | 1 9 | 1 54 | 2 39 | 8 | 3 24 | 4 9 | 4 54 | 5 39 |
| 1 12 | 1 57 | 2 42 | 3 27 | 9 | 4 12 | 4 57 | 5 42 | 6 27 |
| 2 0 | 2 45 | 3 30 | 4 15 | 10 | 5 0 | 5 45 | 6 30 | 7 15 |
| 2 48 | 3 33 | 4 18 | 5 3 | 11 | 5 48 | 6 33 | 7 18 | 8 3 |
| 3 36 | 4 21 | 5 6 | 5 51 | 12 | 6 36 | 7 21 | 8 6 | 8 51 |
| 4 24 | 5 9 | 5 54 | 6 39 | 13 | 7 24 | 8 9 | 8 54 | 9 39 |
| 5 12 | 5 57 | 6 42 | 7 27 | 14 | 8 12 | 8 57 | 9 42 | 10 27 |
| 6 0 | 6 45 | 7 30 | 8 15 | 15 | 9 0 | 9 45 | 10 30 | 11 15 |
| 6 48 | 7 33 | 8 18 | 9 3 | 16 | 9 48 | 10 33 | 11 18 | 12 3 |
| 7 36 | 8 21 | 9 6 | 9 51 | 17 | 10 36 | 11 21 | 12 6 | 12 51 |
| 8 24 | 9 9 | 9 54 | 10 39 | 18 | 11 24 | 12 9 | 12 54 | 1 39 |
| 9 12 | 9 57 | 10 42 | 11 27 | 19 | 12 12 | 12 57 | 1 42 | 2 27 |
| 10 0 | 10 45 | 11 30 | 12 15 | 20 | 1 0 | 1 45 | 2 30 | 3 15 |
| 10 48 | 11 33 | 12 18 | 1 3 | 21 | 1 48 | 2 33 | 3 18 | 4 3 |
| 11 36 | 12 21 | 1 6 | 1 51 | 22 | 2 36 | 3 21 | 4 6 | 4 51 |
| 12 24 | 1 9 | 1 54 | 2 39 | 23 | 3 24 | 4 9 | 4 54 | 5 39 |
| 1 12 | 1 57 | 2 42 | 3 27 | 24 | 4 12 | 4 57 | 5 42 | 6 27 |
| 2 0 | 2 45 | 3 30 | 4 15 | 25 | 5 0 | 5 45 | 6 30 | 7 15 |
| 2 48 | 3 33 | 4 18 | 5 3 | 26 | 5 48 | 6 33 | 7 18 | 8 3 |
| 3 36 | 4 21 | 5 6 | 5 51 | 27 | 6 36 | 7 21 | 8 6 | 8 51 |
| 4 24 | 5 9 | 5 54 | 6 39 | 28 | 7 24 | 8 9 | 8 54 | 9 39 |
| 5 12 | 5 57 | 6 42 | 7 27 | 29 | 8 12 | 8 57 | 9 42 | 10 27 |
| 6 0 | 6 45 | 7 30 | 8 15 | 30 | 9 0 | 9 45 | 10 30 | 11 15 |
| VWest. | Wbn | Wnw | Nbn | ☾ | Nw | Nwn | NNW | Nbn |

The second
table of
tydes.

The use of these Tables.

When you wyl knowe the full Sea. seeke out the name of the place, where you desire the ful water, in the head of the tables: Or learne the pointes of the compassse there noted: Or if you lyst, knowe of some Mariner, what Moone maketh a full Sea there: a South west or South Moone &c. Then the age of $\frac{1}{2}$ Moone found vnder the place or point of the compassse, sheweth in right order $\frac{1}{2}$ houre and Minute of the full water. The ebbe then is manifest.

Of ebbing
and Flow-
ing.

Ensample.

I desire to knowe the full water at London bridge, the yeare of our Lorde 1555. the first daie of februarie. I finde by rules before put forth, the 6 day of Februarie the yeare aforesayde, the Moone, to be 14 daies olde. I see also vnder the title where London is S w. which letteres signifie that a South west Moone maketh a full Sea there: and that is at two of the clocke, and 12 minutes past. This is well perceaued in the first Table before put forth, if you runc downe to the 14 day of $\frac{1}{2}$ age of the Moone, vnder London title.

A Note of the houre of the day and nyght.

The ingenious may gather nere about the houre of the day and nyght, by the Moone: consideration had of the pointes in those Tables of tydes before noted. For the houre is orderly put vnder the point of the compassse.

Euery part or point contayning 11 degrees $\frac{1}{2}$: this compassse is well figured nere about the Centre in $\frac{1}{2}$ instrument followyng for $\frac{1}{2}$ nyght houre, because yee may by it haue a delectable large vse of these tide tables.

How by the first of the tide tables, ye may readily knowe when the Moone cometh into the South, when she riseth and setteth: with her continuance on the earth.

Seeke the age of the Moone (as is opened) then resorte to $\frac{1}{2}$ first Tide table, looking out that age there: So vnder $\frac{1}{2}$ South point in right order the houre appeareth, when she cometh vnto $\frac{1}{2}$ South. Then hath she spent halfe that arcke that $\frac{1}{2}$ Sonne would haue had in that Signe: whiche pulled away, she with the rysing: that halfe arcke also added to hir coming vnto $\frac{1}{2}$ South declareth her going downe. The arcke then that $\frac{1}{2}$ Sonne would haue had in $\frac{1}{2}$ Signe is her continuance on the earth.

Profitable Rules

A Table at all times plainly and briefly declaring the breake of the day: the houre & minute of the Sunne rising: the iust length of the day: the length of the night also: the very minute of the Sunne setting: and the twilight.

| Monethes | Days. | Break of the day. | Sunne ysinge. | Lengthe of the day | Lēgthe of the night | Sunne setting. | Twy- lyghts. | Days. | Monethes. |
|----------|-------|----------------------|------------------|-----------------------|------------------------|-------------------|-----------------|-------|-----------|
| | | H. M. | H. M. | H. M. | H. M. | H. M. | H. M. | | |
| Dec. | 10 | 6 | 0 8 | 11 7 | 37 16 | 23 3 | 49 6 | 0 | 10 |
| | 20 | 5 | 58 8 | 10 7 | 40 16 | 20 3 | 50 6 | 2 | 1 |
| Janu. | 1 | 5 | 54 8 | 0 8 | 0 16 | 0 4 | 0 6 | 6 | 20 |
| | 10 | 5 | 44 7 | 49 8 | 21 15 | 39 4 | 11 6 | 16 | 10 |
| Febr. | 20 | 5 | 35 7 | 34 8 | 52 15 | 8 4 | 26 6 | 25 | 1 |
| | 1 | 5 | 15 7 | 13 9 | 34 14 | 26 4 | 47 6 | 45 | 20 |
| Mar. | 10 | 5 | 0 6 | 56 10 | 8 13 | 52 5 | 4 7 | 0 | 10 |
| | 20 | 4 | 50 6 | 36 10 | 47 13 | 13 5 | 24 7 | 10 | 1 |
| Apr. | 1 | 4 | 20 6 | 19 11 | 22 12 | 38 5 | 41 7 | 40 | 20 |
| | 10 | 4 | 0 6 | 1 11 | 58 12 | 2 5 | 59 8 | 0 | 10 |
| May. | 20 | 3 | 40 5 | 41 12 | 37 11 | 23 6 | 19 8 | 20 | 1 |
| | 1 | 3 | 8 5 | 18 13 | 23 10 | 37 6 | 42 8 | 52 | 20 |
| June. | 10 | 2 | 40 5 | 1 13 | 57 10 | 3 6 | 59 9 | 20 | 10 |
| | 20 | 2 | 10 4 | 43 14 | 33 9 | 27 7 | 17 9 | 50 | 1 |
| July. | 1 | 1 | 30 4 | 25 15 | 9 8 | 51 7 | 35 10 | 30 | 20 |
| | 10 | 0 | 30 4 | 12 15 | 35 8 | 25 7 | 48 11 | 30 | 10 |
| Aug. | 20 | Cōtinu: | | 4 | 0 15 | 59 8 | 1 8 | 0 | 1 |
| | 1 | all day. | | 3 | 51 16 | 17 7 | 43 8 | 9 | 20 |
| Sept. | 10 | | | 3 | 48 16 | 23 7 | 37 8 | 12 | 10 |
| | | H. M. | | H. M. | H. M. | H. M. | H. M. | H. M. | |
| | | Day con | | | | tinuall. | | | |
| | | be Length | | | | | | | |

The vse of this table.

Consider the Moneth and day, that ye require any of the toforesayd: and seke in this Table that same under the title: procede in ryght ordre, so ye haue your purpose. If the very day be not founde, take the nearest of your table. Or by proportion the truthe is geuen: whiche all by Ensample folowynge shall playnly be declared.

As minutes to be added to the Length

Ensample.

The first date of Ianuarie, I desire all the aforesayd that is, the breake of the daie: the very minute of the Sunne rysing: & length of the day, and also of the nyght: the Sunne goyng downe, and & twylight. I finde on the ryght hande of Ianuarie these numbers runnyng downe, 1. 10. 20. which declare the first day, & tenth day and twentieth of that Moneth. Nowe to my purpose, I require the breake of the daie, &c. The first of Ianuary, in the Table, vnder & title, one the ryght hande of this fygure 1, I see 5 houres, and 54 minutes, that is 6 of the clocke wantyng 6 minutes. The rysing of the Sunne in that order, is iust at 8, as this figure & there declareth vnder that title in the rowe. The length of the daie, 8 houres: the length of the nyght 16 houres: the Sunne setting is at 4: & twylight, at 6 and 6 minutes. Euen thus for the tenth day, & also for the twentieth of that Moneth, in & rowes according to their titles in the head of my Tables.

Howe to worke by proportion, when the day is not founde.

I Would knowe all thasayd: the first day of Ianuarie, I take for ensample the breake of the day. Remember the first day of Ianuarie, I did fynde the breake to be at 5 of the clocke and 54 minutes: and the tenth day I may fynde the breake of the day to be at 5 & 44 minutes, that is 10 minutes lesse. I see nowe 10 dayes do geue me 10 minutes lesse: I say therefore (by proportion) the ffth day must geue 5 minutes lesse the 5 houres 54 minutes: which is 5 houres, 49 minutes my request. Thus for all the other titles.

The houre of the nyght by the Moone, is otherwise founde then before, and that diuersly.

The houre of her rysing knowen, as is opened, & a marke then made where she shadoweth, in any true fixed or moueable Sunne Dial, the houres and minutes from that marke all the nyght after, are to be added to her rysing. If more then 12 surmounte, onely that aboue 12 sheweth the true houre and minute. If at the rysing she may not be seene, then by the Sunne rysing, in that very Signe (with & help of this Almanack) pou may perceiue what houre she would note at her rysing. Therefore from that marke, counte.

Howe by the Moone, the night houre is founde.

Will.

Another

Profitable rules

An other way.

When the Moone is at ϕ full, looke what houre her shadowe sheweth in any Dial, that is the houre of ϕ nyght. After she is past the full 28 houres, ye must adde one houre: But afore the full, pull one from that yee finde in the Dial. If twyle 28, two houres &c. So haue yee the houre of the night.

How the houre of the day, by Right shadowe, that is by any thing directly standing vp, is knowne: and by Squire shadowe also.



Erst it behoueth you to haue a Staffe, or any other thing diuided in 12 equal partes. When yee list to haue the houre, set vp directly your diuided Staffe, one a playne leuell grounde, or bourd &c. Note ϕ iust length of ϕ shadowe, what partes it contayneth. With those, enter your Moneth in the Peculiar Kalender following: beholding diligently vnder ϕ name of ϕ Moneth, ϕ small enclosed Tables: considering well, whiche of those small Tables are meetest vnto your day: and that iudge by the Signe, or day there noted. That table serueth your purpose: where you must looke out the partes of the shadowe afore founde, or nere vnto it: vnder or ouer the which the houre is set, before or after noone. Note ϕ two prickes there, signifie halfe a part more the is noted: one pricke, halfe a part lesse. Verc it is also to be noted, that euery Table hath within, two rowes of figures: the vpper is for the Staffe, the other for the Squire shadowe. And whatsoever is before saide of the one, that same is ment here of ϕ other, sayng of the composition.

The Squire must be diuided from the inward angle to the ende of one side, in 12 equal partes: euen so from that angle the other side into 24 lyke partes, as this figure sheweth.

These to the witte suffice.

The composition of an instrument for the houre of the night: which is also a Perfect Dyall for the day, and excellent for the Mariner.

The takng of an Altitude supposed, I could exactly in fewe, (that without an Instrumēt) satisfie. If or want of ϕ knowledge, make vpon a playne bourd, or rather fine plate, a Circle: ϕ bigger the better: part it into 560 portions, thus.

The

The Circle made deuide it in 6: not mouing the compasse: then euery of them in 6, and eche of those last in 10: so haue you 360 partes. The Character it, beginning at the North thus. 10. 20. 30. &c. (as in the figure) going toward the East, & ending at p North with 360. Nowe lay a ruler on the Centre, even with some diuisions, drawing thowme to the extremes of the Circle a lyne. Then crosse p with an other. These two must diuide your Circle in 4 equall partes: which lyues shew p very East, West, North, & South, w hē by a Meridian or square Dial, w a needle rectified, they are placed.

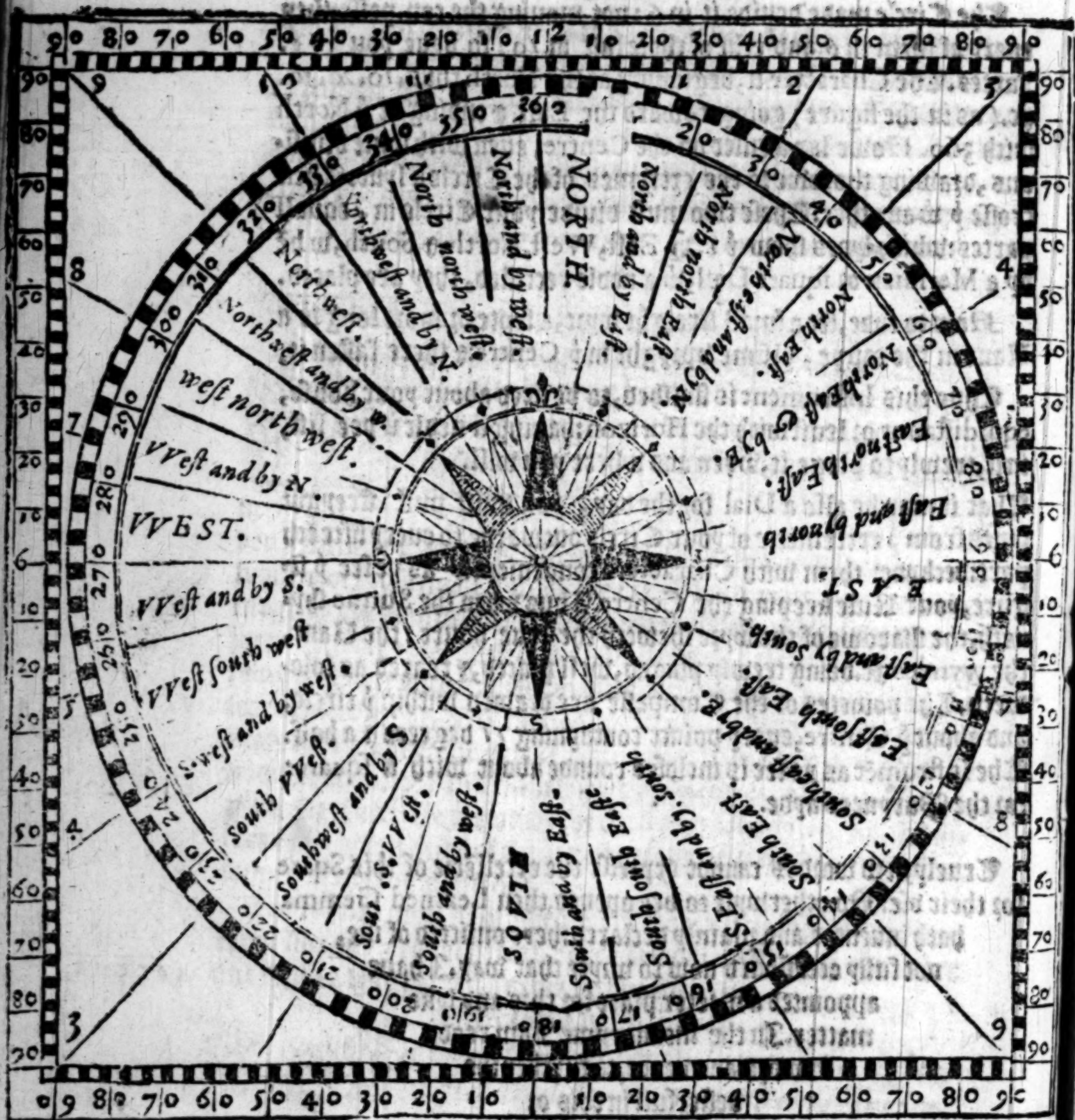
Now to ende, set a small streight wyre, a foote or more long w a Plane in the toppe, plume bypyght in p Centre: & there fasten it.

Thus this Instrument is finished, to be fixed about your house, equidistant or leuill with the Horizon: hauing a needle if pee list, in it, trewly to place it, when and where you will.

That it may be also a Dial for the day, you must pull streyght lyues from p extremitte of your Circle outwarde, to euery fiftēth part: deckyng them with Characters conueniently as ye see p figure, your Rule keeping the Centre. Thus when the Sonne shyneth, the shadowe of the wyre sheweth the true houre: the Plane, the wyndes &c. being trewly placed, well placed, & reared as foloweth. The pointes of the Compasse are drawn within p circle, and about p Centre, euery point contayning 77 degrees & a half. The Instrumēt as ye see is inclosed rounde about with a square: for the Harpners wyde.

Truely, few wordes cannot expresse the excellēcie of this Square for their vse: No otherwyse to bee opened, then Learned Gemma hath inuented and plainly declared: here omitted of me, not fully occasioned now to wyte that way. I haue appointed a meeter place for this and lyke matter. In the meane tyme I am ready in word and dede, to further the besterfull in this or any other.

The



Bhold this Instrument for Navigation most commodious,
the use of which is here only put forth according to
my inuention.

*The ryght rearing and placing of the Diall
tofore mencioned.*



Let by handsomely your Instrument or Dial toward the North in some meete place, the side of a Squyre lying on it, untill the plummet and line, centered in the extreme upper part of the other side of your Squyre like longe, cut all that squyreside which lyeth on your Instrument, the fifth part onely except: Then moue your Instrument, hither and thither, this or that way, untill the shadowe of the wyre fall vpon the houre of the day, keeping diligently your height before. Your Diall thus fixed, declarerh all the yeare longe, the exacte houre and partes thereof. No Diall in truth excelleth this. Haue in remembraunce, that this Instrumēt must lye leuell, nothing at all crated, for the houre of the night by starre.

In Winter the contrary superficies of Plaine, sheweth the day houre from 10 to 7.

To get the exact houre by two Starres of the first lyght, with an Instrument or Cyrcle, tofore diuyled, first of me inuented, calculated and practysed.



The Instrument, equidistantly set and plaged, as is declared in the composition, yee ought to lay y^e edge of a ruler vnto y^e wyre, the other neather end touching the instrument, moving here & there still touching the wyre, untill eyther starre doth offer it selfe with that edge, and that by the Iudgement of the eye. Then put downe discretely your ruler (euer touching y^e wyre) the hinder ende not mooued, obseruing how many partes are cut from the North, to the edge of the ruler. Enter with them the Peculiar Kalender following: seeking out your moneth, & laced in the middest of euery Table: then the day of that moneth must be there founde.

Fit slo aut digito, absque regula exactissime.

Note that euery table hath on the sides, the dayes thus ordered 1. 5. 10. 15. 20. 25. 30. Knowe, the order of rowe of figures which is right against, or neerest your day, sergeth the tyme. The number of partes before cut by the Ruler, and now found in the row of your table, sheweth the precise houre. If it bee to litle, that houre ouer the head or vnder, is not yet come: if contrary, it is past.

H.

How

Profitable rules

*How these two bryghte starres; being of the first lighte,
are founde: the one called Aldebaran or oculus
Tauri, the other Alramech.*

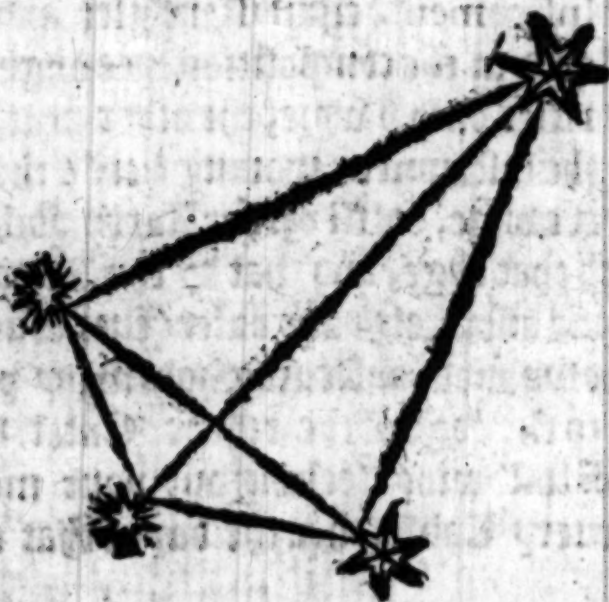
By vvhich
meanes these
Starres are
known.

The best way is thus: The moneth and day known with
the true howre of the night, enter your Table considering
that moneth & day, obserue what partes belongeth there
to that starre and howre. Then resorte to your instru-
ment, laying the edge of your ruler, as many partes from the
North Eastward, circumspectly listinge by the edge close by the
wyre, so the sayre starre shyneth euen with that edge.

Or thus grosly.

Anoth r way
to finde them.

Oculus Tauri is euer a meete rod and a halfe to the eye vnder
the seuen starres, and somewhat North of them in the rising:
Alramech is contrary to him plaged, accompanied with three li-
tle dimme starres, a rod from him by the iudgement of the sight:
in the forme of a Triangle, thus.



*Beholde this figure: the great Starre doth represent Alra-
mech: the other three the Triangle, which is placed alwayes
with him: but commonly there doth appeare but one
Starre of the Triangle.*

NOV.

NOWE ENSVETH THE Fol.28

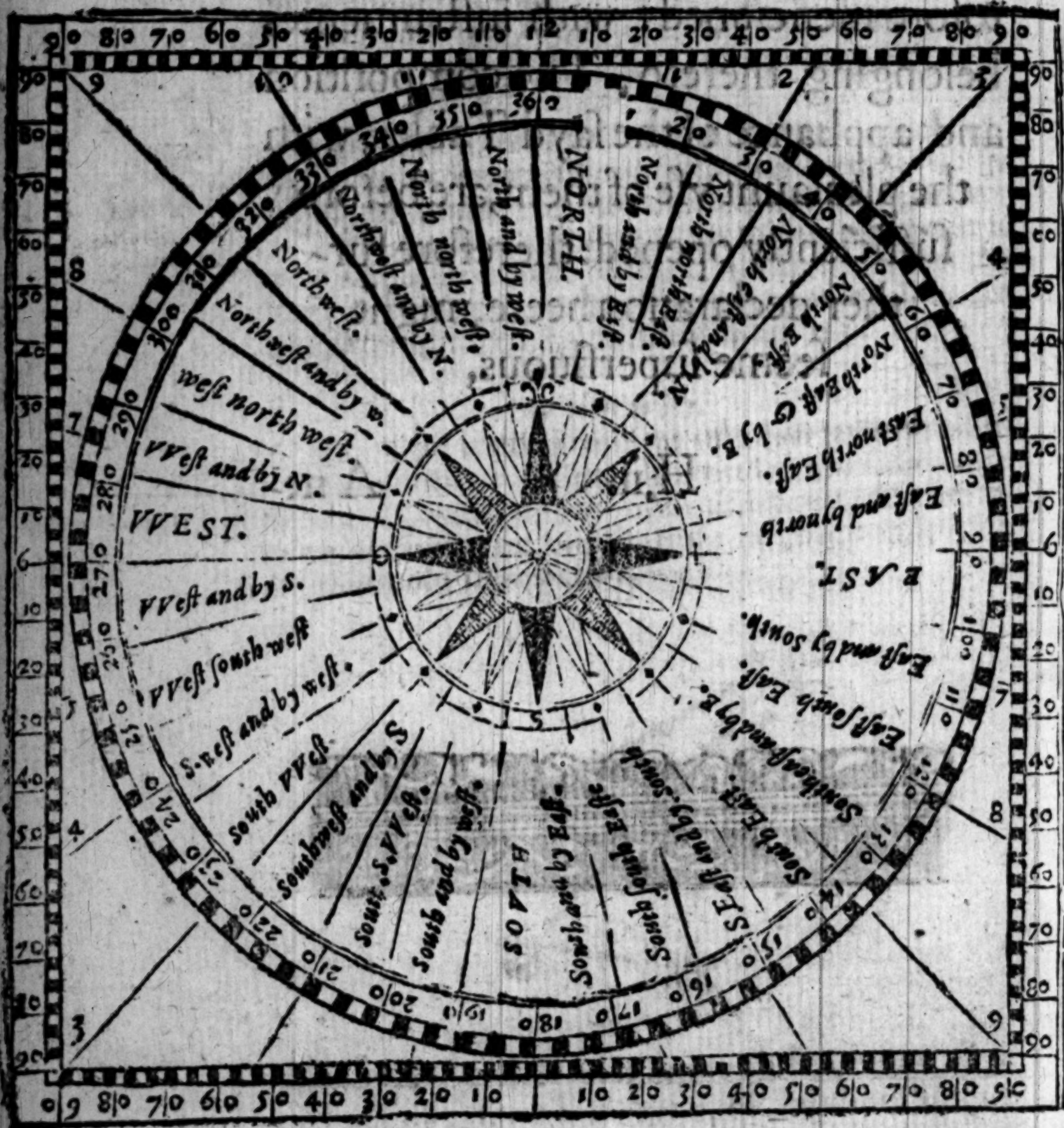
needefull, necessary, peculiar Kalendar
tofore mencioned: with instrumentes
belonging thereto. The composition
and appliance of the sayd Tables, with
the pleasaunt vse of them, are before
sufficiently opened: therefore fur-
ther declaration heere, might
seeme superfluous.

H.ii.

A ne-



A necessary Instrument, to find exactly the houre of the
 day and night diuerse wayes, with helpe of this Peculiar
 Kalendar.



The

| | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
|----|-----|-----|-----|-----|-----|-----|-----|-----|
| 1 | 108 | 123 | 143 | 165 | 190 | 213 | 239 | 279 |
| 5 | 112 | 129 | 150 | 172 | 197 | 220 | 246 | 286 |
| 10 | 113 | 136 | 158 | 183 | 206 | 227 | 253 | 293 |
| 15 | 123 | 144 | 166 | 192 | 214 | 233 | 260 | 300 |
| 20 | 130 | 151 | 173 | 199 | 220 | 239 | 266 | 306 |
| 25 | 137 | 158 | 183 | 207 | 228 | 244 | 271 | 311 |
| 30 | 144 | 165 | 191 | 213 | 233 | 249 | 276 | 316 |

January hath xxxj. dayes.

| | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|--|
| 81 | 53 | 105 | 131 | 143 | 168 | 196 | |
| 86 | 96 | 110 | 127 | 151 | 177 | 205 | |
| 89 | 101 | 115 | 135 | 160 | 189 | 214 | |
| 93 | 105 | 122 | 143 | 169 | 198 | 223 | |
| 98 | 111 | 128 | 152 | 179 | 207 | 230 | |
| 10 | 115 | 135 | 159 | 190 | 216 | 236 | |
| 190 | 121 | 144 | 168 | 193 | 222 | 242 | |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | |

From Evening to midnig.

Oculus Tauri.

Alramack

Alramack

| | | | | | | |
|--------|----|----|----|----|-----|---|
| 12 | 11 | 10 | 9 | 8 | 7 | H |
| Staffe | 26 | 39 | 49 | 83 | 150 | 0 |
| Squire | 4 | 4 | 3 | 2 | 0 | 0 |
| H | 0 | 1 | 2 | 3 | 4 | 5 |

shad.
shad.

| | | | | | | |
|--------|----|----|----|----|-----|---|
| 12 | 11 | 10 | 9 | 8 | 7 | H |
| Staffe | 32 | 34 | 42 | 65 | 209 | 0 |
| Squire | 4 | 4 | 3 | 2 | 1 | 0 |
| H | 0 | 1 | 2 | 3 | 4 | 5 |

shad.
shad.

gr. 10

| | | | | | | |
|--------|----|----|----|-----|---|---|
| 12 | 11 | 10 | 9 | 8 | 7 | H |
| Staffe | 27 | 29 | 35 | 119 | 0 | |
| Squire | 5 | 5 | 4 | 3 | 1 | |
| H | 0 | 1 | 2 | 3 | 4 | 5 |

shad.
shad.

20

II. III.

For the night.

From midnighe unto day

For the day.

The peculiar

Oculus
Tanri.

Alramech.

For the night.

From midnight unto day.

From evening to midnight.

| | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
|----|-----|-----|-----|----|----|-----|-----|
| 1 | 169 | 194 | 216 | 62 | 73 | 83 | 95 |
| 5 | 174 | 192 | 222 | 64 | 75 | 85 | 98 |
| 10 | 84 | 207 | 228 | 68 | 79 | 70 | 102 |
| 15 | 191 | 214 | 234 | 71 | 82 | 94 | 106 |
| 20 | 198 | 220 | 233 | 75 | 86 | 98 | 111 |
| 25 | 205 | 226 | 243 | 78 | 88 | 110 | 116 |
| 30 | | | | | | | |

February hath xxviii. dayes.

| | | | | | | |
|-----|-----|-----|-----|-----|-----|--|
| 108 | 114 | 146 | 172 | 201 | 225 | |
| 111 | 119 | 153 | 180 | 207 | 231 | |
| 117 | 136 | 126 | 190 | 216 | 227 | |
| 122 | 144 | 169 | 153 | 223 | 213 | |
| 128 | 152 | 278 | 206 | 230 | 248 | |
| 134 | 159 | 188 | 214 | 236 | 252 | |
| | | | | | | |

1 2 3 4 5 6

Alramech.

For the day.

| | 12 | 11 | 10 | 9 | 8 | 7 | H |
|------------|----|----|----|----|----|---|---|
| 8 { Staffe | 23 | 25 | 30 | 42 | 80 | 6 | 6 |
| { Squire | 6 | 6 | 15 | 14 | 3 | 0 | |
| | 0 | 1 | 2 | 3 | 4 | 5 | |

{bad.} 0

| | 12 | 11 | 10 | 9 | 8 | 7 | H |
|------------|----|----|----|----|----|------|---|
| 8 { Staffe | 0 | 21 | 25 | 54 | 61 | 1215 | |
| { Squire | 7 | 7 | 6 | 4 | 2 | 1 | |
| | 0 | 1 | 2 | 3 | 4 | 5 | |

{bad.} 10 gr. X

| | 12 | 11 | 10 | 9 | 8 | 7 | H |
|-------------|----|----|----|----|----|-----|---|
| 28 { Staffe | 17 | 18 | 22 | 29 | 45 | 112 | |
| { Squire | 8 | 8 | 6 | 5 | 3 | 11 | |
| | H | 0 | 1 | 2 | 3 | 4 | 5 |

{bad.} 20

| | 7 | 8 | 9 | 10 | 11 | 12 | | | |
|--------------------------|-----|-----|-----|-----|-----|-----|--|--|--|
| 1 | 50 | 70 | 81 | 93 | 105 | 120 | | | |
| 5 | 62 | 74 | 84 | 95 | 108 | 125 | | | |
| 10 | 65 | 76 | 87 | 97 | 113 | 131 | | | |
| 15 | 69 | 80 | 91 | 103 | 118 | 138 | | | |
| 20 | 72 | 83 | 94 | 107 | 123 | 146 | | | |
| 25 | 75 | 86 | 98 | 112 | 129 | 153 | | | |
| 30 | 80 | 90 | 102 | 117 | 136 | 161 | | | |
| Marche hath xxxi. dayes. | | | | | | | | | |
| | 142 | 168 | 196 | 222 | 241 | | | | |
| | 47 | 173 | 201 | 227 | 245 | | | | |
| | 155 | 183 | 210 | 232 | 250 | | | | |
| | 63 | 192 | 218 | 238 | 255 | | | | |
| | 71 | 200 | 225 | 243 | 259 | | | | |
| | 180 | 208 | 232 | 249 | 262 | | | | |
| | 191 | 216 | 237 | 254 | 267 | | | | |
| | 1 | 2 | 3 | 4 | 5 | 6 | | | |

From evening to midnight.

Alramech

30

Alramech

| | | | | | | | | |
|--------|----|----|----|----|----|----|---|-------|
| | 12 | 11 | 10 | 9 | 8 | 7 | H | |
| Staffe | 15 | 16 | 19 | 24 | 37 | 74 | | fbad. |
| Squire | 9 | 9 | 8 | 6 | 4 | 2 | | fbad. |
| H | 1 | 2 | 3 | 4 | 5 | | | |

| | | | | | | | | |
|--------|----|----|----|----|----|----|-----|-------|
| | 12 | 11 | 10 | 9 | 8 | 7 | 6 | H |
| Staffe | 13 | 14 | 16 | 21 | 30 | 54 | 121 | fbad. |
| Squire | 11 | 10 | 9 | 7 | 5 | 3 | 1 | fbad. |
| H | 0 | 1 | 2 | 3 | 4 | 5 | 6 | |

gr.

| | | | | | | | | |
|--------|----|----|----|----|----|----|-----|-------|
| | 12 | 11 | 10 | 9 | 8 | 7 | 6 | H |
| Staffe | 11 | 12 | 14 | 18 | 26 | 43 | 112 | fbad. |
| Squire | 12 | 12 | 10 | 8 | 5 | 3 | 1 | fbad. |
| H | 0 | 1 | 2 | 3 | 4 | 5 | 6 | |

2 de Peculiar

Alramech

| | 6 | 7 | 8 | 9 | 10 | 11 | 12 | |
|-------------------------|-----|-----|-----|-----|-----|----|----|--|
| 1 | 92 | 104 | 118 | 138 | 154 | | | |
| 5 | 94 | 107 | 123 | 145 | 171 | | | |
| 10 | 98 | 111 | 129 | 153 | 180 | | | |
| 15 | 101 | 117 | 127 | 150 | 182 | | | |
| 20 | 106 | 122 | 144 | 168 | 198 | | | |
| 25 | 111 | 128 | 151 | 178 | 207 | | | |
| 30 | 117 | 135 | 159 | 189 | 215 | | | |
| Apryll hath xxx. dayes. | | | | | | | | |
| | 103 | 218 | 230 | 255 | | | | |
| | 199 | 225 | 244 | 258 | | | | |
| | 207 | 231 | 248 | 262 | | | | |
| | 215 | 235 | 253 | 256 | | | | |
| | 223 | 243 | 257 | 270 | | | | |
| | 230 | 248 | 262 | 274 | | | | |
| | 236 | 252 | 266 | 273 | | | | |
| | 1 | 2 | 3 | 4 | 5 | | | |

For the nyght.

From midnight vnto day.

From evening to midnight.

Alramech

| | 12 | 11 | 10 | 9 | 8 | 7 | 6 | H | |
|-----------|----|----|----|----|----|----|----|-----|---------|
| 10 Staffe | 0 | 11 | 13 | 16 | 23 | 36 | 76 | | {shad.} |
| 10 Squire | 14 | 13 | 11 | 9 | 6 | 4 | 2 | | {shad.} |
| H | 0 | 1 | 2 | 3 | 4 | 5 | 6 | | |
| | 12 | 11 | 10 | 9 | 8 | 7 | 6 | H | |
| 27 Staffe | 9 | 9 | 11 | 15 | 21 | 31 | 58 | 267 | {shad.} |
| 27 Squire | 16 | 15 | 12 | 9 | 7 | 4 | 2 | 1 | {shad.} |
| H | 0 | 1 | 2 | 3 | 4 | 5 | 6 | | |
| | 12 | 11 | 10 | 9 | 8 | 7 | 6 | 5 | H |
| 31 Staffe | 8 | 8 | 10 | 14 | 19 | 28 | 49 | 139 | {shad.} |
| 31 Squire | 18 | 17 | 14 | 10 | 7 | 5 | 3 | 1 | {shad.} |
| H | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | |

For the day.

gr. 8

| | 8 | 9 | 10 | 11 | 12 | 1 | 2 | 3 | 4 |
|--------------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 1 | 117 | 136 | 160 | 190 | 225 | 265 | 310 | 360 | 415 |
| 5 | 120 | 142 | 168 | 200 | 235 | 275 | 320 | 370 | 425 |
| 10 | 128 | 152 | 178 | 210 | 245 | 285 | 330 | 380 | 435 |
| 15 | 134 | 159 | 188 | 220 | 255 | 295 | 340 | 390 | 445 |
| 20 | 143 | 168 | 196 | 230 | 265 | 305 | 350 | 400 | 455 |
| 25 | 151 | 177 | 206 | 240 | 275 | 315 | 360 | 410 | 465 |
| 30 | 160 | 189 | 219 | 250 | 285 | 325 | 370 | 420 | 475 |
| May hath xxxi dayes. | | | | | | | | | |
| From midnights unto day. | 237 | 253 | 267 | 278 | 288 | 298 | 308 | 318 | 328 |
| | 241 | 256 | 269 | 280 | 290 | 300 | 310 | 320 | 330 |
| | 247 | 262 | 273 | 285 | 295 | 305 | 315 | 325 | 335 |
| | 252 | 266 | 278 | 288 | 298 | 308 | 318 | 328 | 338 |
| | 257 | 270 | 281 | 292 | 302 | 312 | 322 | 332 | 342 |
| | 262 | 274 | 285 | 295 | 305 | 315 | 325 | 335 | 345 |
| | 266 | 278 | 288 | 300 | 310 | 320 | 330 | 340 | 350 |
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |

From evening to mid night.

Alra-
mech.

| | | | | | | | | | | | | | |
|--------------|--------|----|----|----|----|----|----|----|-----|-----|-----|-----|------|
| For the day. | 12 | 11 | 10 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | H |
| | Staffe | 7 | 8 | 10 | 13 | 17 | 26 | 43 | 100 | 175 | 275 | 400 | 525 |
| | Squire | 20 | 18 | 15 | 11 | 8 | 5 | 2 | 1 | 0 | 0 | 0 | 0 |
| | H | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | H |
| For the day. | 12 | 11 | 10 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | H |
| | Staffe | 7 | 8 | 10 | 13 | 17 | 26 | 43 | 100 | 175 | 275 | 400 | 525 |
| | Squire | 20 | 18 | 15 | 11 | 8 | 5 | 2 | 1 | 0 | 0 | 0 | 0 |
| | H | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | H |
| For the day. | 12 | 11 | 10 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | H |
| | Staffe | 6 | 7 | 9 | 12 | 16 | 23 | 37 | 74 | 156 | 312 | 625 | 1250 |
| | Squire | 22 | 20 | 16 | 11 | 8 | 5 | 2 | 1 | 0 | 0 | 0 | 0 |
| | H | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | H |

The Peculiar

Alra-
mech.

For the night.

Alra-
mech.

| | 8 | 9 | 10 | 11 | 12 | | |
|----|-----|-----|-----|-----|-----|---|--|
| 1 | 161 | 191 | 216 | 237 | 254 | 0 | |
| 5 | 159 | 197 | 223 | 242 | 257 | 0 | |
| 10 | 180 | 207 | 231 | 249 | 262 | 0 | |
| 15 | 191 | 216 | 237 | 254 | 257 | 0 | |
| 20 | 199 | 224 | 243 | 258 | 271 | 0 | |
| 25 | 207 | 231 | 249 | 262 | 275 | 0 | |
| 30 | 216 | 237 | 254 | 267 | 279 | 0 | |

From evening to midnight.

June hath xxx. dayes.

| | | | | | | | | |
|-----|-----|-----|-----|-----|----|----|-----|----|
| 217 | 279 | 290 | 301 | 8 | 5 | 50 | 82 | 55 |
| 270 | 282 | 292 | 303 | 8 | 1 | 00 | 072 | 11 |
| 74 | 285 | 297 | 308 | 8 | 1 | 55 | 10 | 54 |
| 79 | 290 | 301 | | 285 | 8 | 5 | 00 | 55 |
| 83 | 293 | 304 | | 301 | 18 | 1 | 55 | 54 |
| 86 | 297 | 308 | | 285 | 78 | 1 | 55 | 54 |
| 290 | 301 | 382 | | 000 | 88 | 55 | 00 | |

1 2 3 4 5

For the day.

| | 12 | 11 | 10 | 9 | 8 | 7 | 6 | 5 | 4 | H |
|--------|----|----|----|----|----|----|----|----|-----|-------|
| Staffe | 6 | 7 | 9 | 12 | 16 | 23 | 37 | 74 | 565 | shad. |
| Squire | 22 | 20 | 16 | 12 | 9 | 6 | 4 | 2 | 0 | shad. |
| H | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | |

gr. II

| | 12 | 11 | 10 | 9 | 8 | 7 | 6 | 5 | 4 | H |
|--------|----|----|----|----|----|----|----|----|-----|-------|
| Staffe | 6 | 7 | 9 | 12 | 16 | 23 | 36 | 72 | 453 | shad. |
| Squire | 22 | 20 | 16 | 12 | 9 | 6 | 4 | 2 | 0 | shad. |
| H | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | |

gr. 6

| | 12 | 11 | 10 | 9 | 8 | 7 | 6 | 5 | 4 | H |
|--------|----|----|----|----|----|----|----|----|-----|-------|
| Staffe | 6 | 7 | 9 | 14 | 16 | 23 | 37 | 74 | 565 | shad. |
| Squire | 22 | 20 | 16 | 12 | 9 | 6 | 4 | 2 | 0 | shad. |
| H | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | |

For the night.

For the day.

Kalendar.

Fo. 32

| | 8 | 9 | 10 | 11 | 12 | | | |
|------------------------|-----|-----|-----|-----|-----|--|--|--|
| 1 | 219 | 239 | 255 | 263 | 230 | | | |
| 5 | 225 | 244 | 259 | 272 | 283 | | | |
| 10 | 233 | 250 | 264 | 275 | 286 | | | |
| 15 | 238 | 254 | 267 | 279 | 290 | | | |
| 20 | 243 | 258 | 271 | 283 | 293 | | | |
| 25 | 249 | 262 | 275 | 286 | 297 | | | |
| 30 | 254 | 267 | 279 | 290 | 300 | | | |
| July hath xxxj. dayes. | | | | | | | | |
| | 290 | 301 | 83 | | | | | |
| | 293 | 304 | 86 | | | | | |
| | 267 | 79 | 90 | | | | | |
| | 301 | 82 | 93 | | | | | |
| | 304 | 86 | 98 | | | | | |
| | 308 | 89 | 101 | | | | | |
| | 81 | 93 | 106 | | | | | |
| | 1 | 2 | 3 | 4 | 5 | | | |

From evening to midnight.

Alra-mech.

Alra-mech.

Oculus Tauri.

For the nyght.

From midnight unto day.

| | | | | | | | | | | |
|--------|----|----|----|----|----|----|----|----|------|--------|
| | 12 | 11 | 10 | 9 | 8 | 7 | 6 | 5 | 4 | H |
| Staffe | 7 | 7 | 9 | 12 | 16 | 24 | 39 | 82 | 2580 | (bad.) |
| Squire | 21 | 19 | 15 | 11 | 8 | 6 | 4 | 2 | | (bad.) |
| H | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | |

gr. 20

For the day.

| | | | | | | | | | |
|--------|----|----|----|----|----|----|----|-----|--------|
| | 12 | 11 | 10 | 9 | 8 | 7 | 6 | 5 | H |
| Staffe | 7 | 8 | 10 | 13 | 17 | 26 | 43 | 100 | (bad.) |
| Squire | 20 | 18 | 15 | 11 | 8 | 5 | 3 | 1 | (bad.) |
| H | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | |

gr. 2

| | | | | | | | | | |
|--------|----|----|----|----|----|----|----|-----|--------|
| | 12 | 11 | 10 | 9 | 8 | 7 | 6 | 5 | H |
| Staffe | 8 | 8 | 10 | 14 | 19 | 28 | 49 | 139 | (bad.) |
| Squire | 18 | 17 | 14 | 10 | 7 | 5 | 3 | 1 | (bad.) |
| H | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | J.ij. |

gr. 10

The Peculiar

Alra-
mech.

Oculus
Tauri.

Oculus
Tauri.

| | 8 | 9 | 10 | 11 | 12 | 01 | 02 | 03 |
|--------------------------|-----|-----|-----|-----|-----|-----|-----|-----|
| 1 | 255 | 267 | 279 | 291 | 303 | 315 | 327 | 339 |
| 5 | 259 | 272 | 284 | 296 | 308 | 320 | 332 | 344 |
| 10 | 263 | 275 | 286 | 297 | 308 | 319 | 330 | 341 |
| 15 | 267 | 279 | 290 | 300 | 311 | 322 | 333 | 344 |
| 20 | 270 | 282 | 292 | 303 | 313 | 324 | 335 | 346 |
| 25 | 274 | 285 | 296 | 306 | 317 | 328 | 339 | 350 |
| 30 | 278 | 288 | 299 | 309 | 320 | 331 | 342 | 353 |
| August hath xxxj. dayes. | | | | | | | | |
| 1 | 82 | 94 | 107 | 122 | 141 | 168 | 205 | 254 |
| 5 | 86 | 98 | 111 | 126 | 145 | 172 | 209 | 258 |
| 10 | 89 | 102 | 116 | 132 | 154 | 182 | 219 | 267 |
| 15 | 93 | 105 | 119 | 136 | 160 | 188 | 225 | 274 |
| 20 | 96 | 110 | 125 | 144 | 167 | 196 | 232 | 281 |
| 25 | 100 | 114 | 130 | 152 | 174 | 204 | 240 | 288 |
| 30 | 104 | 118 | 136 | 158 | 183 | 214 | 250 | 295 |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |

For the night.

From midnight to day.

From evening to midnight.

For the night.

For the night.

| | | | | | | | | | | | |
|--------|----|----|----|----|----|----|----|----|----|----|----|
| 12 | 11 | 10 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 |
| Staffe | 9 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 |
| Squire | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 |
| H | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| 12 | 11 | 10 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 |
| Staffe | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 |
| Squire | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 |
| H | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| 12 | 11 | 10 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 |
| Staffe | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 |
| Squire | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 |
| H | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |

For the day.

For the day.

For the day.

From Evening to midnight

*Oculus
Tauri.*

For the night.

From midnight unto day

*Oculus
Tauri.*

For the day.

The peculiar

Alra-
mech.

Oculus
Tauri.

Oculus
Tauri.

| | 6 | 7 | 8 | 9 | 10 | 11 | 12 | |
|---------------------------|-----|-----|-----|-----|-----|-----|-----|--|
| 1 | 277 | 288 | 298 | 30 | 92 | 104 | 117 | |
| 5 | 292 | 20 | 302 | 82 | 94 | 107 | 122 | |
| 10 | 284 | 294 | 305 | 86 | 93 | 111 | 127 | |
| 15 | 286 | 68 | 79 | 90 | 102 | 116 | 133 | |
| 20 | 290 | 71 | 82 | 93 | 106 | 121 | 140 | |
| 25 | 294 | 75 | 86 | 98 | 111 | 126 | 146 | |
| 30 | 297 | 79 | 90 | 102 | 116 | 132 | 154 | |
| October hath xxxj. dayes. | | | | | | | | |
| 1 | 135 | 157 | 181 | 205 | 225 | 243 | | |
| 5 | 141 | 162 | 188 | 210 | 231 | 247 | | |
| 10 | 147 | 170 | 195 | 218 | 237 | 252 | | |
| 15 | 154 | 178 | 202 | 225 | 242 | 256 | | |
| 20 | 162 | 186 | 210 | 230 | 245 | 260 | | |
| 25 | 169 | 194 | 217 | 235 | 251 | 264 | | |
| 30 | 177 | 202 | 224 | 241 | 255 | 268 | | |
| | 1 | 2 | 3 | 4 | 5 | 6 | | |

From evening to midnight.

For the night.

From midnight unto day.

For the night.

| | 12 | 11 | 10 | 9 | 8 | 7 | H | |
|----|--------|----|----|----|-----|----|------|-------|
| 4 | Staffe | 20 | 21 | 25 | 34 | 61 | 225 | shad. |
| | Squire | 7 | 7 | 16 | 14 | 2 | 0 | shad. |
| | H | 0 | 1 | 2 | 3 | 4 | 5 | gr. 2 |
| | 12 | 11 | 10 | 9 | 8 | 7 | H | |
| 14 | Staffe | 23 | 25 | 30 | 42 | 79 | 6896 | shad. |
| | Squier | 6 | 6 | 15 | 13 | 1 | 0 | shad. |
| | H | 0 | 1 | 2 | 3 | 4 | 5 | gr. 3 |
| | 12 | 11 | 10 | 9 | 8 | | H | |
| 24 | Staffe | 27 | 29 | 35 | 119 | | | shad. |
| | Squier | 5 | 5 | 14 | 13 | 1 | | shad. |
| | H | 0 | 1 | 2 | 3 | 4 | | 10 |

For the day.

For the day.

| | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
|----|-----|-----|-----|-----|-----|-----|-----|-----|
| 1 | 287 | 298 | 80 | 92 | 104 | 117 | 135 | 156 |
| 5 | 290 | 302 | 82 | 94 | 107 | 122 | 147 | 163 |
| 10 | 294 | 305 | 87 | 98 | 111 | 127 | 147 | 171 |
| 15 | 298 | 80 | 91 | 103 | 117 | 135 | 156 | 180 |
| 20 | 303 | 83 | 55 | 108 | 123 | 142 | 165 | 189 |
| 25 | 307 | 88 | 100 | 113 | 129 | 105 | 173 | 193 |
| 30 | 81 | 92 | 104 | 119 | 136 | 158 | 183 | 206 |

Nouember hath xxx. dayes.

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|----|-----|-----|-----|-----|-----|-----|-----|-----|
| 1 | 182 | 205 | 225 | 243 | 257 | 270 | 281 | 292 |
| 5 | 188 | 211 | 231 | 248 | 261 | 273 | 285 | 296 |
| 10 | 196 | 218 | 237 | 252 | 265 | 277 | 283 | 000 |
| 15 | 204 | 225 | 243 | 257 | 269 | 281 | 292 | 000 |
| 20 | 213 | 232 | 248 | 261 | 274 | 285 | 297 | 000 |
| 25 | 210 | 218 | 253 | 265 | 278 | 290 | 297 | 000 |
| 30 | 227 | 244 | 258 | 270 | 282 | 293 | 295 | 000 |

From Evening to midnight

Akra-
mech.

Oculus
Tauri.

Oculus
Tauri.

| | 12 | 11 | 10 | 9 | 8 | H |
|--------|----|----|----|-----|------|---|
| Staffe | 33 | 34 | 42 | 65 | 109 | |
| Squire | 4 | 4 | 3 | 2 | 1 | |
| H | 0 | 1 | 2 | 3 | 4 | |
| Staffe | 36 | 39 | 49 | 83 | 1550 | |
| Squire | 4 | 4 | 3 | 2 | 1 | |
| H | 0 | 1 | 2 | 3 | 4 | |
| Staffe | 40 | 45 | 57 | 104 | | |
| Squire | 3 | 3 | 2 | 1 | | |
| H | 0 | 1 | 2 | 3 | | |

shad. } 20
shad. } gr. m'

shad. } 0
shad. }

shad. } 10
shad. } gr. +

For the day.

4204

The peculiat

Oculus
Tauri.

mech.

Oculus

Tauri.

Oculus
Tauri.

Alra-
mech.

| | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
|----|-----|-----|-----|-----|-----|-----|-----|-----|
| 1 | 81 | 94 | 105 | 119 | 136 | 158 | 183 | 207 |
| 5 | 84 | 96 | 109 | 124 | 144 | 166 | 192 | 214 |
| 10 | 89 | 101 | 115 | 132 | 153 | 175 | 201 | 222 |
| 15 | 93 | 105 | 120 | 139 | 161 | 186 | 209 | 230 |
| 20 | 98 | 111 | 127 | 147 | 169 | 195 | 217 | 236 |
| 25 | 102 | 116 | 133 | 154 | 177 | 202 | 224 | 242 |
| 30 | 107 | 122 | 141 | 163 | 188 | 211 | 231 | 248 |

December hath xxxj. dayes.

| | | | | | | | | |
|----|-----|-----|-----|-----|-----|-----|-----|-----|
| 1 | 218 | 244 | 258 | 271 | 283 | 293 | 305 | |
| 5 | 231 | 249 | 263 | 275 | 286 | 297 | 308 | 311 |
| 10 | 240 | 255 | 267 | 279 | 291 | 302 | 313 | 316 |
| 15 | 246 | 260 | 272 | 284 | 295 | 306 | 317 | 320 |
| 20 | 251 | 264 | 276 | 287 | 298 | 309 | 320 | 323 |
| 25 | 256 | 268 | 280 | 291 | 302 | 313 | 324 | 327 |
| 30 | 261 | 273 | 285 | 295 | 306 | 317 | 328 | 331 |
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | |

| | | | | | | | | |
|----|--------|----|----|----|-----|--|---|---------|
| | | 12 | 11 | 10 | 9 | | H | |
| 2 | Staffe | 43 | 47 | 62 | 112 | | | {shad.} |
| | Squire | 3 | 3 | 12 | 11 | | | {shad.} |
| 12 | Staffe | 45 | 49 | 65 | 131 | | | {shad.} |
| | Squire | 3 | 3 | 2 | 1 | | | {shad.} |
| 22 | Staffe | 43 | 47 | 62 | 112 | | | {shad.} |
| | Squier | 3 | 3 | 12 | 11 | | | {shad.} |
| 31 | Staffe | 40 | 45 | 57 | 104 | | | {shad.} |
| | Squier | 3 | 3 | 12 | 11 | | | {shad.} |
| | H | 0 | 1 | 2 | 3 | | | |

From evening to midnight.

From midnight unto day.

For the day.

gr.

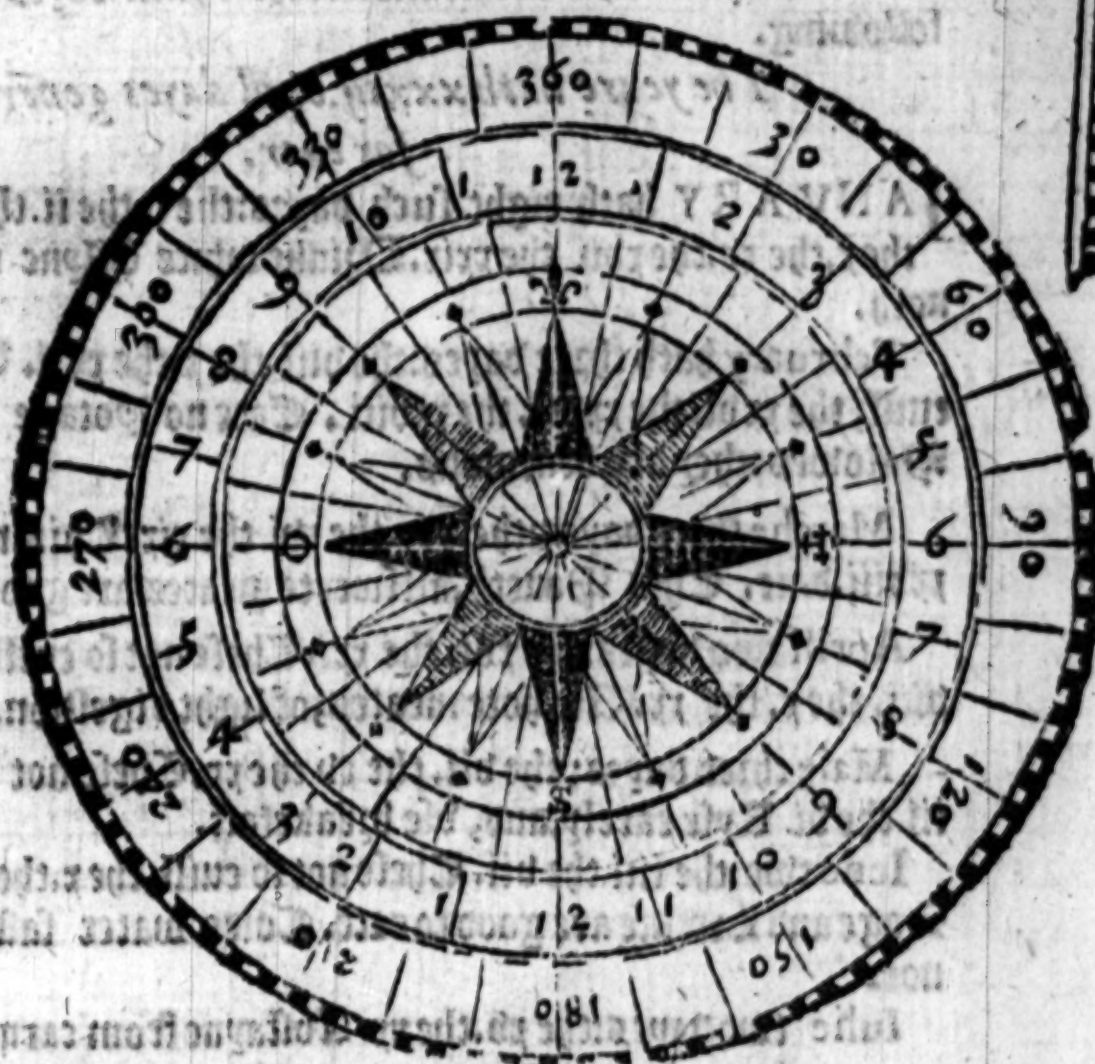
gr.

gr.

The generall kalendar.

Fol. 35

North



West

East

South

Thus endeth the Peculiar Kalendar, very commodious for the day, and night houre. I here adioyned the Instrument without a Square, which may suffice for the whole vse of the toforesayd Kalendar, with the help of the Squire and Staffe.

R.

Wap

I May not here omitte a Kalendar generall diuided in two partes,
whereof the first containeth six monethes, from Ianuary to
Iune: The second other six monethes, from Iuly to December. In
this Kalendar are set forth the Festiuall dayes, the entring of the
Sunne in the Signes celestiall, the euill dayes noted with one
Pricke. For a further declaration of those euill dayes: reade this
following.

*The yeare hath xxxiiij. euill dayes generall
for euil.*

IANVARY hath eight such dayes: the i. the ii. the iii. the v.
the x. the xv. the xvii. the xxix. **D**rinke white Wyne in this Mo-
neth.

February hath three dayes: the viii. the x. the xvii. These not so
euill, the xvi. the xviii. the xxviii. **E**ate no Potage of Dkes or
Malowes: they are venemous.

Marche three dayes: the xv. the xvi. the xix. This not so euill,
xxviii. daie. This Moneth, all sweete meates are good.

Aprill two dayes: the xvi. the xxi. These not so euill, the vii. the
viii. the x. the xx. Use hote meates, of light digestion.

Maie three dayes: the vii. the xv. the xx. These not so euill, the
iii. the vi. Ryse earely, and, vse breakfast.

June two: the iii. the vii. These not so euill, the x. the xv. the xxi.
Sage and Lettuce are good to eat. Colde water fasting hurteth
not.

Julie two dayes: the xv. the xx. Abstayne from carnality.

August two dayes: the xix. & xx. These not so euill, the i. the xxi.
the xxx. It hurteth not to abstayne from Potage, & all hote meates,
and drincke of spycery.

September two dayes: the vi. the vii. These not so euill, the iii.
the xiii. the xxi. the xxii. **E**ate good fruite.

October one day: the vi. These not so euill, the iii. the xvi. the
xxiii. **W**ood wyne is wholsome this moneth.

Nouember two dayes: the xv. the xix. These not so euill, the v.
the vi. the xviii. the xxix. **B**leede not.

December three dayes: the vi. the vii. the ix. These dayes not so
euill, the xv. the xvii. the xxii. **B**leede not ouer much. **M**arine
not thy legges at the fyre.

Now

The generall Kalendar.
 Now ensueth the generall Kalendar.
 dar.

Fol. 36

The first part of the generall Kalendar: from Ianuarie to Iune.

| Ianuarie. | Februarie. | March. | Dates | April. | May. | Iune. |
|------------|------------|-----------|-------|-------------|-------------|------------|
| :A Circūc. | d | d | 1 | g | b Pbl. Lac. | e |
| :b | e Purifi. | e | 2 | A | c | f |
| c | f | f | 3 | b | d | g |
| :d | g | g | 4 | c | e | :A |
| :e | A | A | 5 | d | f | b |
| f Epiph. | b | b | 6 | e | g | c |
| g | c | c | 7 | f | :A | :d |
| A | :d | d | 8 | g | b | e |
| b | c ⊙ in X | e | 9 | A | c | f |
| :c | :f | f | 10 | b | d | g |
| d ⊙ in III | g | g ⊙ in V | 11 | c ⊙ in VIII | e | A Barna. |
| e | A | A Spring. | 12 | d | f ⊙ in II | b ⊙ in VI |
| f Hilar. | b | b | 13 | e | g | c Sumer. |
| g | c Valen. | c | 14 | f | A | d |
| :A | d | :d | 15 | g | :b | :e |
| b | e | :e | 16 | :A | c | f |
| :c | :f | f | 17 | b | d | g |
| d | g | g | 18 | c | e | A |
| e | A | :A | 19 | d | f | b |
| f | b | b | 20 | e | g | c |
| g | c | c | 21 | f | A | d |
| A | d | d | 22 | g | b | e |
| b | e | e | 23 | A Georg. | c | f |
| c | f Math. | f | 24 | b | d | g Ioā hsp. |
| d Co. Pat. | g | g Anun. | 25 | c Marc. | e | A |
| e | A | A | 26 | d | f | b |
| f | b | b | 27 | e | g | c |
| g | c | c | 28 | f | A | d |
| :A | d | d | 29 | g | b | e Pe. Pa. |
| b | e | e | 30 | A | c | f |
| c | f | f | 31 | d | | |

the generall kalendar.

The seconde part of the generall Kalendar: from Iulie to December.

| Iuly. | August. | Septemb. | Dayes | October. | Nouem. | Decem. |
|-------------|---------------|-----------|-------|------------|-----------|------------|
| g | .c Pet. Vin. | f | 1 | A | d Om. fā. | f |
| A | d | g | 2 | b | e Om. an. | g |
| b | e | .A | 3 | .c | f | A |
| c | f | .b | 4 | d | g | b |
| d | g | c | 5 | e | .A | c |
| e Dog beg. | A | .d | 6 | .f | .b | .d Nicol. |
| f | b | .e | 7 | g | c | .e |
| g | c | f Na. Ma. | 8 | A | d | f Co. ma. |
| A | d | g | 9 | b | e | .g |
| b | e | A | 10 | c | f | A |
| c | f | b | 11 | d | g | b |
| d | g | c | 12 | e | A | c Om. b |
| e | A | d | 13 | f | b Om. x | d wynter. |
| f Om. S | b Om. m | e Om. o | 14 | g Om. m | c | e |
| .g | c | f Heruct. | 15 | A | .d | f |
| A | d | g | 16 | b | e | g |
| b | e Dog end | A | 17 | c | f | .A |
| c | f | b | 18 | d Luc. | g | b |
| d | g | c | 19 | e | .A | c |
| .e | .A | d | 20 | f | b | d |
| f | b | .e Mathe. | 21 | g | c | e Tho. ap. |
| g Ma. mag. | c | f | 22 | A | d | f |
| A | d | g | 23 | b | e | g |
| b | e Barbo. | A | 24 | .c | f | A |
| c Luc. Apo. | f | b | 25 | d | g | b Na. do. |
| d | g | c | 26 | e | A | c Steph. |
| e | A | d | 27 | f | b | d Io. eua. |
| f | b | c | 28 | g St. Iud. | .c | e Imoce. |
| g | .c decol. Io. | f Micha. | 29 | A | .d | f Tho. |
| A | d | g | 30 | b | e Andre. | g |
| b | e | | 31 | c | | A |

Loe the briefe use of this Generall
Kalendar.



Ntre the Colupne where your Moneth
is noted in the hedde, yee shall there finde
runnyng downe the Colupne the Festinall
dayes of that Moneth, & entry of the Spring
in Celestiall Signes, & Equall dates packed &c.

I would have placed in this Kalendar
Fayres and Termes also: but that can not re-
maine continually true. For those that ensue

inmoveable feastes are moveable, & therefore may have no certaine
place. For the Termes also; note these preceptes following. The
Fayres shall be declared by two Tables immediately ensuing this Ka-
lendar General.

How to know the Termes.

Nowe that Easter terme alwayes beginneth the 18 day after
Easter, reckoning Easterday for one; and endeth the Monday
next after the Ascension day.

Trinitie Terme beginneth the Friday next after Corpus Cristi
day: and endeth the Wednesday fourteenight after.

Michaelmasse Terme beginneth the 9 of 10 day of October:
and endeth the 28 of 29 of November.

Hilarie Terme beginneth the 23 of 24 day of Ianuarie: and en-
deth the 12 of 13 day of Februarie.

FINIS.

Generall Fayres.

A Table contayning the Moneth, day and Place, of the pryncipall Fayres of England, to be augmented at pleasure, in order following.

Ianyarye.

The first day of Ianyary, the fayre is at Bristow, and also at Salisbury. The first of Lence at Exeter.

Februarie

The second day at Bath, at Baydstone. The 14 at Feversham. On Ashwednesday, at Lichfield, at Ropstone, at Tamworth. The first monday in Lenc, at Eseter, at Abington. The 24 at Henley upon Thames, at Tenkesbury.

Marche

The 4 Sunday in Lenc at Stanford, at Sudbury. The 5 Sunday at Grantam. The Monday before our Lady day at Salisbury. Palme euen at Wilbich. The 13 at Wye. The 25 at Northampton, at Great Chare, at Watilden.

Aprill

The 5 day at Wallingford. The 7 at Darby. The 9 at Bickelworth, at Billingworth, at Calam. The Monday after. The Sunday after Easter at Louth. The 23 at Charinge, at Ipswich, at Amcill, at Binigam, at Gylforde. The 25 at Darby. The 26 at Cenerden.

May

The 1 day at Stow the olde, at Reading, at Maidstone, at Leicester, at Chensorde. The 8 day at Beuctley. Ascencion day, at Birmingham, at S. Edes, at Bithops Statforde. Whitsunday, at Kingstone vppon Thames. Trinity Sunday, at Rowell. At Cranebooke, the 19 day. The 27 day at Lenthain.

Iune.

On Corpus Christi day, at Couentry, S. Edes, at Bpshoppe Stanforth, at Rolfe. The 9 at Maidstone. The 11 at Okingam. The 23 at Shrowlbury, at S. Albones. The 24 at Cambridge, at Glocester, at Lincolne, at Windsor, at Colchester. The 29 at Moller Hampton, at Peterborowe. The 17 at Folkstone. The 24 at Parisam. The 8 at Petcorne.

Handwritten flourish or signature.

Generall Fayres.

Fol. 38

*A Table containing the Moneth, day, and
Place, of the principall Fayres of England;*

*to bee augmented at pleasure, in order
der following.*

The 11 day Horse fayre at Partney, at Rabor, at Felix. The 12 July.
The 13 day at Lid. The 15 at Pinchbacke. The 17 at Winkton.
The 20 at Wybridge, at Catterick. The 22 at Warborough, at
Winchester, at Colchester, at Tetbury. The 25 at Willow, at
Dover, at Chatham, at Ipswich, at Northampton, at Darby,
at S. James by London, at Reading, at Louth, at Bealby.

The 1 day at Feuerfame, at Donstable, at S. Eves, at Fud. August.
forth, at Harram Church, at Wilsbiche. The 9 at Rummy. The 10
at Bedford, at Fernam, at Strodes, at Blackmore, S. Lau, at
Walton: The 24 at London, at Tewkesbury, at Sudbury, at Nor-
wich, at Northalerton, at Dover, at Rye. The 28 at Ashford.

The 8 day at Cambridge, at Sturbridge, at London in South- September
marke, at Smide, at Kicoluer, at Partney iii. Lady dayes. The
14 at Maltam Abbey, at Motton under hedge, at Smalving. The
21 at Croydon, at Helden in Holdernesle, at S. Edmundsbury, at
S. Pues, at Walop Lanam, at Wiltemal, at Sittingbourne, at
Dover, at Estry. The 29 day at Canterbury.

The 6 day at S. Sythes besides Northwiche. The 13 at Craues October
end, at Winsor, at Marchfelde. The 18 at Ely, at Stanton, at
Charing. The 23 at Warforde, at Ciciter, at Newmarket.

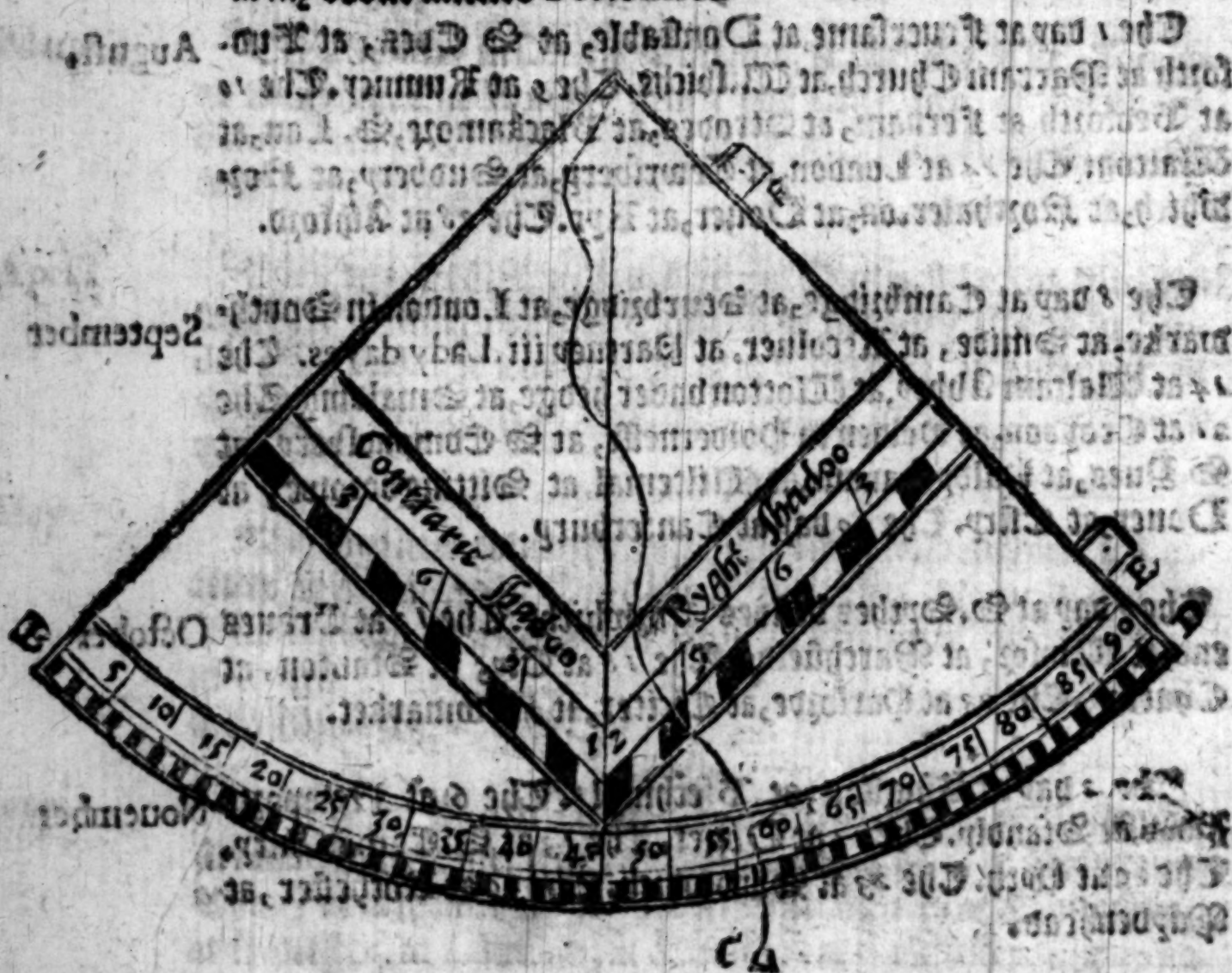
The 2 day at Kingston, at Blechingl. The 6 at Newport November
Pond, at Standly. The 11 at Dover. The 13 at S. Edmundsbury.
The 20 at Wyth. The 23 at Sandwich. The 30 at Rochester, at
Haydenhead.

The 29 at Canterbury. The 5 at Pluckley. The 6 at Spalding. December
The 7 at Sanderst.

Because

Because I vnderstand many are desirous how to get exactly the iust length of staffe and squire shadowe before created of, vpon vnleauell groundes, or other wayes whereloeuer it be, p[er]son with- out either squire or staffe. I haue calculated a table following througely latifying them, so that they get the height of y^e Sunne any way: or as I shall now instruct.

Behold this Instrument called a Quadrant y^e iust fourth part of a Circle, euen such a Circle as I taught you before to make for the right Dial; containing y^e fourth part of his diuisions, that is 90 degrees, only two lightes & a plume line added, to be placed at the beginning of this booke, as yemay there, and here see. I haue here also put the Scale to y^e Quadrant, which serueth well for shadowes, and as well for heightes. The vse of this Scale is declared in my booke intituled Tectonicon



How by this **I**nst[ru]ment to v[er]y easily pour Quadrant, the Sun beames p[er]fing the lightes. The Plūmet and Lyne then at liberty falling, noteth get the height there the degrees of hight at y^e present, with y^e which yee shall en- of the Sunne ter this table immediatly following, to get then, and in like ma- at all times. ner at all other times, the iust shadow of the staffe or squire.

A table

*A Table generall of Shadowes, right and contrary, for
euery grade of the Sunnes heyght: The thinge cau-
sing Shadowe, supposed 12 partes.*

| Heyght of the Sunne. | | Staffe. Shadow. | Heyghte of the Sunne. | | Staffe. Shadow. | Heyghte of the Sunne. | | Staffe. Shadowe |
|-------------------------|----|--------------------|--------------------------|----|--------------------|--------------------------|----|--------------------|
| G | g | P M | G | G | P M | G | g | P M |
| 0 | 90 | Sham. | 30 | 60 | 20 47 | 60 | 30 | 6 56 |
| 1 | 89 | 687 34 | 31 | 59 | 195 8 | 61 | 29 | 6 35 |
| 2 | 88 | 343 43 | 32 | 58 | 191 2 | 62 | 28 | 6 23 |
| 3 | 87 | 228 59 | 33 | 57 | 182 9 | 63 | 27 | 6 17 |
| 4 | 86 | 171 37 | 34 | 56 | 174 7 | 64 | 26 | 5 51 |
| 5 | 85 | 137 10 | 35 | 55 | 17 9 | 65 | 25 | 5 36 |
| 6 | 84 | 114 10 | 36 | 54 | 163 0 | 66 | 24 | 5 21 |
| 7 | 83 | 97 49 | 37 | 53 | 155 2 | 67 | 23 | 5 6 |
| 8 | 82 | 85 28 | 38 | 52 | 152 1 | 68 | 22 | 4 51 |
| 9 | 81 | 75 46 | 39 | 51 | 144 9 | 69 | 21 | 4 36 |
| 10 | 80 | 68 3 | 40 | 50 | 141 8 | 70 | 20 | 4 22 |
| 11 | 79 | 61 44 | 41 | 49 | 134 9 | 71 | 19 | 4 8 |
| 12 | 78 | 56 27 | 42 | 48 | 132 0 | 72 | 18 | 3 54 |
| 13 | 77 | 51 59 | 43 | 47 | 125 2 | 73 | 17 | 3 40 |
| 14 | 76 | 48 8 | 44 | 46 | 122 6 | 74 | 16 | 3 26 |
| 15 | 75 | 44 47 | 45 | 45 | 12 0 | 75 | 15 | 3 12 |
| 16 | 74 | 41 51 | 46 | 44 | 113 9 | 76 | 14 | 3 0 |
| 17 | 73 | 39 15 | 47 | 43 | 111 1 | 77 | 13 | 2 46 |
| 18 | 72 | 36 54 | 48 | 42 | 104 8 | 78 | 12 | 2 32 |
| 19 | 71 | 34 51 | 49 | 41 | 102 6 | 79 | 11 | 2 20 |
| 20 | 70 | 32 58 | 50 | 40 | 10 4 | 80 | 10 | 2 7 |
| 21 | 69 | 31 16 | 51 | 39 | 94 3 | 81 | 9 | 1 54 |
| 22 | 68 | 29 42 | 52 | 38 | 92 2 | 82 | 8 | 1 41 |
| 23 | 67 | 28 16 | 53 | 37 | 9 3 | 83 | 7 | 1 29 |
| 24 | 66 | 26 57 | 54 | 36 | 84 3 | 84 | 6 | 1 16 |
| 25 | 65 | 25 44 | 55 | 35 | 82 4 | 85 | 5 | 1 3 |
| 26 | 64 | 24 37 | 56 | 34 | 8 6 | 86 | 4 | 0 50 |
| 27 | 63 | 23 33 | 57 | 33 | 74 8 | 87 | 3 | 0 38 |
| 28 | 62 | 22 34 | 58 | 32 | 73 0 | 88 | 2 | 0 25 |
| 29 | 61 | 21 40 | 59 | 31 | 71 3 | 89 | 1 | 0 13 |
| 30 | 60 | 20 47 | 60 | 30 | 6 6 | 90 | 0 | 0 0 |

Heyght of the Sunne Squire Shadow. || Heyght of the Sunne. || Squire Shadow. || Heyght of the Sunne. || Squire Shadow.

The use of this Table, and first for staffe Shadow.

Ensample.



Suppose the heyhgt of the Sunne, taken by the Quadrant, thirty foure degrees: now I require the exacte length of staffe and squire Shadowe. For right shadowe, first seek out the degrees in the lefte part of the table, and vnder this title the height of the Sunne: if they bee not in that lefte rowe downewardz, resort to the next rowe and like title, vntill yee finde the degrees: then in right order toward the right hande, in the next Columnne vnder the title of staffe Shadow, are 17 partes, and 47 minutes, your desyre.

For Squire shadowe, tyttled contrary Shadowe.

Take your degrees in the ryght part upwarde, at this title Heyght of the Sunne, in the bottome of this Table: then shall yee finde on the right hand of 34 degrees, in the next Columnne, eight partes and 6 Minutes: that is the very length of squire shadowe when the Sunne is 34 degrees in height.

O Ccasioned I cannot here omitte an other table faythfully supputated for the Sunnes altitude, by the which with quicke speede the houre is knowne. This table conduceth manyfolde wayes, yea, to the Composition of diuerse & many Instruments: as Quadrants, Nauicles, Cylindres, Rynges. &c.

Beholde nowe it doth ensue, and also the brieue use of it.

ATa

*9 observed to sonb / febr. 16 / 30 1/2 daye
meridia affitudo
at orisffio*

A Table of the Sunnes altitude, for every hour: the Pole mounted. 51. degrees
30. Minutes, exactly calculated.

| Hours before n. | 12 | 11 | 10 | 9 | 8 | 7 | 6 | 5 | 4 |
|-----------------|-------|-------|-------|-------|-------|-------|-------|------|------|
| Hours after n. | 12 | 11 | 10 | 9 | 8 | 7 | 6 | 5 | 4 |
| Si. G S G | G M | G M | G M | G M | G M | G M | G M | G M | G M |
| 30 09 0 | 62 0 | 59 43 | 53 45 | 45 42 | 35 42 | 27 21 | 18 11 | 9 25 | 1 31 |
| 25 10 5 | 61 54 | 58 37 | 52 39 | 44 36 | 34 36 | 26 15 | 17 54 | 9 9 | 13 |
| 20 12 10 | 61 37 | 58 21 | 52 23 | 44 20 | 34 20 | 26 0 | 17 38 | 9 9 | 13 |
| 15 13 15 | 60 20 | 57 4 | 51 6 | 43 3 | 33 3 | 25 13 | 17 21 | 8 16 | 0 16 |
| 10 14 20 | 60 30 | 56 17 | 50 19 | 42 16 | 32 16 | 24 26 | 16 4 | 8 16 | 0 16 |
| 5 15 25 | 59 41 | 55 28 | 49 30 | 41 27 | 31 27 | 23 41 | 15 50 | 7 25 | 0 25 |
| 0 16 30 | 58 42 | 54 39 | 48 41 | 40 38 | 30 38 | 22 56 | 15 4 | 7 10 | 0 10 |
| 25 17 5 | 57 34 | 53 31 | 47 33 | 39 30 | 29 30 | 21 41 | 14 50 | 6 5 | 0 5 |
| 20 18 10 | 56 17 | 52 14 | 46 16 | 38 13 | 28 13 | 20 56 | 14 4 | 6 5 | 0 5 |
| 15 19 15 | 54 52 | 50 49 | 44 51 | 36 48 | 26 48 | 19 11 | 13 50 | 5 4 | 0 4 |
| 10 20 20 | 53 21 | 49 18 | 43 20 | 35 17 | 25 17 | 18 26 | 13 39 | 4 3 | 0 3 |
| 5 21 25 | 51 43 | 47 40 | 41 42 | 33 39 | 23 39 | 17 41 | 12 28 | 3 2 | 0 2 |
| 0 22 30 | 50 0 | 46 11 | 40 13 | 32 10 | 22 10 | 16 56 | 11 17 | 2 1 | 0 1 |
| 25 23 5 | 48 12 | 44 22 | 38 24 | 30 21 | 20 21 | 15 11 | 10 6 | 1 0 | 0 0 |
| 20 24 10 | 46 20 | 42 30 | 36 32 | 28 29 | 18 29 | 14 26 | 9 55 | 0 55 | 0 55 |
| 15 25 15 | 44 25 | 40 35 | 34 37 | 26 34 | 16 34 | 13 41 | 8 44 | 0 44 | 0 44 |
| 10 26 20 | 42 28 | 38 40 | 32 42 | 24 39 | 14 39 | 12 46 | 7 37 | 0 37 | 0 37 |
| 5 27 25 | 40 29 | 36 41 | 30 43 | 22 40 | 12 40 | 11 51 | 6 30 | 0 30 | 0 30 |
| 0 28 30 | 38 30 | 34 42 | 28 44 | 20 41 | 10 41 | 10 56 | 5 23 | 0 23 | 0 23 |
| 25 29 5 | 36 30 | 32 43 | 26 45 | 18 42 | 8 42 | 9 11 | 4 16 | 0 16 | 0 16 |
| 20 30 10 | 34 32 | 30 45 | 24 47 | 16 44 | 6 44 | 8 26 | 3 10 | 0 10 | 0 10 |
| 15 31 15 | 32 35 | 28 48 | 22 50 | 14 47 | 4 47 | 7 41 | 2 4 | 0 4 | 0 4 |
| 10 32 20 | 30 40 | 26 53 | 20 55 | 12 54 | 3 54 | 6 56 | 1 58 | 0 58 | 0 58 |
| 5 33 25 | 28 44 | 24 58 | 18 60 | 10 59 | 2 59 | 6 11 | 1 51 | 0 51 | 0 51 |
| 0 34 30 | 27 0 | 23 1 | 17 3 | 9 2 | 1 2 | 5 26 | 1 44 | 0 44 | 0 44 |
| 25 35 5 | 25 17 | 21 18 | 15 20 | 7 19 | 0 19 | 4 41 | 1 37 | 0 37 | 0 37 |
| 20 36 10 | 23 39 | 19 22 | 13 24 | 5 23 | 0 23 | 3 56 | 1 30 | 0 30 | 0 30 |
| 15 37 15 | 22 8 | 18 11 | 12 13 | 4 12 | 0 12 | 3 11 | 1 23 | 0 23 | 0 23 |
| 10 38 20 | 20 43 | 16 26 | 10 28 | 2 27 | 0 27 | 2 26 | 1 16 | 0 16 | 0 16 |
| 5 39 25 | 19 26 | 15 9 | 9 11 | 1 10 | 0 10 | 1 41 | 1 9 | 0 9 | 0 9 |
| 0 40 30 | 18 18 | 14 1 | 8 3 | 0 2 | 0 2 | 1 16 | 0 52 | 0 52 | 0 52 |
| 25 41 5 | 17 19 | 13 12 | 7 14 | 0 13 | 0 13 | 1 1 | 0 45 | 0 45 | 0 45 |
| 20 42 10 | 16 30 | 12 23 | 6 25 | 0 24 | 0 24 | 0 56 | 0 38 | 0 38 | 0 38 |
| 15 43 15 | 15 51 | 11 34 | 5 36 | 0 35 | 0 35 | 0 47 | 0 31 | 0 31 | 0 31 |
| 10 44 20 | 15 23 | 11 5 | 5 7 | 0 6 | 0 6 | 0 38 | 0 24 | 0 24 | 0 24 |
| 5 45 25 | 15 6 | 10 16 | 4 18 | 0 17 | 0 17 | 0 29 | 0 17 | 0 17 | 0 17 |
| 0 46 30 | 15 0 | 10 27 | 4 29 | 0 28 | 0 28 | 0 20 | 0 10 | 0 10 | 0 10 |

When the Sun. enters the 22 grade of 5, he toucheth our Horizon
4. in the morning. Entering the 22 of 7 he ryseth at 8 in the syde of 8
45 in the syde of 9 at 9. Note in all my tables, one p. be
following the Minutes, diminishing by two, augmenteth
some small quantity.

Briefe collections.

¶ The briefe use of this Table.

Suppose the height of the Sunne taken by the Quadrant, eight degrees and 13 Minutes, the Sunne being in the beginning of Aquarie, or Sagittarie, I seeke, and finde in this table and in the rowe which directly answereth \approx and \times eight degrees and 13 Minutes: that is agreeable to 9 or 3 of the clocke in the head of this table. Therefore I pronounce, that when the Sunne was 8 degrees and 13 Minutes in height, entring \approx or \times , it was precise nine of the clocke in the morning, or thre at after noone. Thus at all times ye may knowe the iust houre.

Ye may also conclude the height of the Sunne at all times, & place of the Sunne knownen, and the houre. Note, when the precise numbers either of height, or degree of the Sunne are not founde in the table, then make proportion according to the difference. &c. Practise, better then many wordes, openeth this. Nowe to end this matter: this following to him that hath tasted these knowledges, I write.

¶ Dato loco Solis & eius altitudine, horam ipsam calculare.

D*Vc sinum inuenta solaris altitudinis, in sinum arcus semidiurni, & productum diuide per sinum altitudinis meridiana eiusde Solis, & provenientis inde partium numeri sumito arcum, quem tandem in horas vertas. Collectus horarum numerus quastam indicabit horam: ab ortu quidem Solis, si altitudo fuerit antemeridiana, vel ab occasu, si eadem Solis altitudo acciderit post meridiem.*

Nowe hauinge some occasion, I coulde here adioyne a hypeth Supputation Sinicall, touching most workings Astronomical, but how farre that passeth the capacity of the common sorte of men, they that be trauayled knowe. For this cause I leaue to geue any precepts this way: desiring prouocation meete to haue to doe in the lyke: then God sufferinge, my penne shall not stay to open

Briefe collections.

Fo

open ready chosen generall wayes, for pleasaunt Astronomicall operation.

Here shall now follow briefly collected certayne rules, performed before by tables: but now done by quicke supputation, to bee had in memory: by that, quoydinge cariage or burden of bookes.

*A way to get the Golden number or Prime
wythout a table.*

Adde vnto the yeare of our Lorde. 1. then diuide that summe by 19. the remayne is the Prime or Golden number.

The Epact is thus euer founde.

Multiplie the Prime by 11. diuide by 30, the remaine is your desire. These two numbers begin at Marche, the 1st is chiefly to finde out the Chaunge, Quarters & full Moone, as ensueth.

*A rule for the Chaunge, Full, and Quarters
of the Moone.*



De vnto the Epact all the monethes from Marche, including the Month of Marche: pull then that summe from 30, the remaine sheweth the day of the chaunge.

Here note the full Moone is the 15 day after the chaunge. Also if the remayne be lesse then 15, subtract that lesse from 15, the rest is the full Moone.

If the remayne passe 30, subtract it from 45, then the full doth also appeare.

To conclude, if from the full Moone yee pull 15 dayes, yee haue the chaunge going before. The chaunge had, the Quarters are knownen, by adding or pulling awaye 7 dayes.

Briefe collections.

For the age of the Moone worke
thus for euer.

A Doe to the dayes of your Moneth the Epact, and also as many dayes more as are Monethes from March to your Moneth, including both Monethes. Nowe subtract 30, if yee may, the age then remayneth.

Now shalbe declared what Sygnes and degrees the Moone differeth from the Sunne by the which is gathered at all tymes, the Sygne and Grade wherein shee is.

Multiply the age of the Moone by 4, diuide by 10, the Quotient sheweth the Sygnes that the Moone differeth from the Sunne. The remaine augmented by 3, bringeth degrees to bee added. Yee must put these Sygnes and degrees to the place of the Sunne. The product, I meane þ increase or end of all these Sygnes and degrees in order counted from the Sunne, declare the place of the Moone in the Zodiacke.

The place of the Sunne in the Zodiacke is thus founde.

First knowe that the 11 day of Ianuary, the Sunne is entred into. The 10 day of February X. The 11 of March V. The 11 of Aprill 8. The 12 of May II. The 12 of Iune 9. The 14 of Iuly N. The 14 of August III. The 14 of September A. The 14 of October m. The 13 of Nouember x. The 12 of December 6. This knowne, the place of the Sunne is well founde, adding for euery day past any entrey, 1 degree.

En-

Ensample.

I Requyre the place of the Sunne the 22 day of August. I finde that the Sunne is entred in 17° the 14 day of the Moneth. I must for every day past and entrey adde 1 degree. There are 7 dayes past that entrey, then I conclude the Sunne ready to haue place in the 2 degrees of 17° the 22 of August.

To know how long the Moone shyneth.

F Or her shyning in the increase, multiply the age of the Moone by 4. In the same augment the rest of the age which she lacketh of 30 by 4, and diuide by 5. The Quotient sheweth the houres: the remaines, if there be any, multiplied by 12, byngeth minutes to be added.

How the moueable feastes are founde readily.

Seeke the chaunge of the Moone in February, for that yeare pee requyre these Moueable feastes. Note what day it falleth on, the next tuesday is Shrouetuesday. But if the chaunge be on tuesday, the next tuesday ensuing is it. The next Sonday is the first Sonday of Lent. After Sondayes after is Easter day. Adde 35 dayes, or 5 weekes to Easter day, pee haue Rogation Sonday. To that adde 4 dayes, so haue pee Ascention day. Then haue pee 10 dayes to Whitsonday. Seuen dayes after is Trinity Sonday. And foure dayes after is Corpus Christi day.

Without Tables, at all tymes to know the Tydes.

Learne as is declared the age of the Moone, also remember the houre of the full or chaunge, for your place or poynt which doth neuer vary: these kontyne, worke thus.

Ensam.

Briefe collections.

Example.



When the Moone is 10 dayes olde, I desire to knowe
at what of the clocke it is full Sea at London bridge.
Multiply 10 by forty eight, so haue ye foure thousand
eighty: diuide that by sixty, ye haue eight houres.
To that adde thre, which is the houre of the full of
chaunge appoynted for that place. All then cometh vnto eleuen
of the clocke high water at London bridge. If any thing re-
mayne they are Minutes of an houre. If the houres
amounte aboue twelue, cast the twelues
away, the rest is your
request.

FINIS.



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...and
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...soph
...soop

To the Reader.



Being of late (gentle Reader) corrected and reformed sundry faultes that by negligence in printing haue crept into my fathers Generall Prognostication: Amonge other thinges I founde a description or Modill of the world, and situation of Spheres Caelestiall & Elementare according to the doctrine of Ptolomy, whereunto all vniuersities (led thereto chiefly by the auctor-ity of Aristotle) subeys haue consented. But in this our age, one rare wit (seeing the continuall errors that frō time to time more & more haue bin discovered, besides the infinit absurdities in their Theorickes, which they haue bin forced to admit that would not confesse any mobilitie in the bulke of the earth) hath by long study, painefull practise, and rare in-vention deliuered a new Theorick, or Modill of the world, shewing, that the Earth resteth not in the Center of the whole world, but onely in the Center of this our mortall world or Globe of Elements, which enuiro- ned & inclosed in the Moones Orb, and together with the whole Globe of mortality is caried yearely rounde about the Sunne, which like a king in the midst of all raigneth and geueth lawes of motion to the rest, sphaerically dispersing his glorious beames of light through all this sacred Caelestiall Temple. And the earth it selfe to be one of the Pla- nets, hauing his peculiar & straying courses, turning euery 24 hours rounde upon his owne Centre: whereby the ☉ and great Globe of fixed starres seeme to sway about and tourne, albeit in deede they remaine fixed. So many wayes is the sense of mortall men abused. But reason and deepe discourse of witte hauing opened these things to Coperni- nicus, & the same being with demonstrations Mathematicall, most ap- parantly by him to the world deliuered: I thought it conuenient toge- ther with the olde Theorick also to publish this, to the ende such noble English mindes (as delight to reache aboue the baser sort of mē) might not bee altogether defrauded of so noble a part of Philosophy. And to the ende it might manifestly appeare that Copernicus meant not as some haue fondly excused him, to deliuer these grounds of the Ear- thes mobility only as Mathematicall principles fayned, & not as Philo- sophicall truly auerred: I haue also from him deliuered both the Philo- sophicall reasons by Aristotle and others, produced to maintaine the
M. Earthes

To the Reader.

Earthes stability, and also their solutions and insufficiency, wherein I cannot a litle commend the modestie of that graue Philosopher Aristotle, who seeing (no doubt) the sufficiency of his owne reasons in seekinge to confute the Earthes motion, vseth these wordes. De his explicatū est, ea, qua potuimus facultate: hominū his discipulis haue not with like sobriety maintained the same. Thus much for my owne part in this case I will onely say. There is no doubt, but of a true ground, truer effectes may bee produced, then of principles that are false: and of true principles, falshood or absurdities cannot be inferred.

If therefore the Earth bee situate immoueable in the Center of the worlde, why finde wee not Theorickes upon that ground to produce effectes as true and certaine as these of Copernicus? Why cast we not away those Circulos Equantes and motions irregulare? seeing our owne Philosopher Aristotle himselfe the light of our Vniuersities hath taught vs: Simplicis corporis simplicem oportet esse motum. But if contrary, it bee founde impossible (the Earthes stability being graunted) but that we must necessarily fall into these absurdities, and cannot by any meane auoyde them: Why shall we so much dote in the apparance of our senses, which many wayes may be abused, and not suffer our selues to be directed by the rule of Reason, which the great GOD hath giuen vs as a lampe to lighten the darcknes of our understandinge, and the perfect guide to leade vs to the golden braunche of Verity amidst the Forrest of errors.

Behold a noble Question to be of the Philosophers and Mathematicians of our Vniuersities, argued not with childish Inuentions, but with graue reasons Philosophicall, and irreproueable Demonstrations Mathematicall. And let vs not in matters of reason bee ledde away with auctority and opinions of men, but with the Stellified Poet let vs say:

Non quid Aristoteles vel quiuis dicat eorum:
Dicta nihil moror, a vero cum forte recedunt.
Magni saepe viri mendacia magna loquuntur.
Nec quisquam est adeo sagax, quin sepius erret.

Ratio dux fida Sophorum.

THE

To the Reader.

THE Globe of Elements enclosed in the Orbe of the Moone,
I call the Globe of Mortalitie, because it is the peculiar
Empire of death. For above the Moone they feare not his
force: but as the Christian Poet sayeth,

Omne quod est supra lunam, æternumque bonumq;
Esse scias: nec triste aliquid Cælestia tangit.
Quicquid verò infra lunæ conuexa creauit
Omniparens, natura malum est, mortisq; scueras.
Perpetitur leges, & edaci absumitur æuo.

Againe.

Omne malum est infra lunam, nox atra, procelle
Terribiles, frigus, calor, importuna senectus,
Pauperies malesuada, labor, dolor, improbitas, Mors.
Supra autem lunam, lucis sunt omnia plena,
Nec non lætitiæ & pacis, non tempus & error,
Et MORS, & senium est illic, & inutile quicquam.
Fœlix ô nimium fœlix, cui sedibus illis
Tam pulchris & tam iucundis tamq; beatis
Viuerè concessum est, supremi munere Regis.

And againe.

Singula nonnulli credunt quoque sydera posse
Dici Orbes, TERRAMque appellant sydus opacum,
Cui minimus Diuum præsit. &c.

*In the midst of this Globe of Mortalitie hangeth this darck starre
or ball of earth and water, balanced & sustained in the midst of the
thinne ayre onely with that propriety which the wonderfull vvorck-
man hath geuen at the Creation to the Center of this Globe, with his
magneticall force vehemently to drawe and hale vnto it selfe all such
other Elementall thinges as retaine the like nature. This ball euery
24 houres by naturall uniforme, and wonderfull slie & smoth moti-
on roulleth rounde, making with his Periode our naturall day, where-
by it seemes to vs that the huge infinite immoueable Globe shoulde
sway and tourne about.*

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The Moones Orbe that environeth and conteyneth this darke starre, and the other mortall, changeable, corruptible Elementes & Elementate thinges, is also tourned round euery 20 dayes, 31 minutes, 50 secondes, 8 thirdes, 9 fourths, and 20 fiftes: and this periode may most aptly be called the Moneth. The rest of Planets motions appeare by the Picture, and shall more largely be hereafter spoken of.

HEREIN good Reader I haue waded farder then the vulgar sort, Demonstratiue & Practise, & God sparing life I meane, though not as Iudge to decide, yet at the Mathematicall barre in this case to pleade, in such sorte, as it shall manifestly appeare to the Worlde whether it bee possible vppon the Earthes stability to deliuer any true or probable Theorickes, & then referre the pronouncing of sentence to the graue Senate of indifferent discrete Mathematicall Readers.

Farewell and respecle my traualle as thou shalt see them tend to the aduancement of truth, and disconeringe the monstrous lothsome shape of errorr.

A Per-

A PERFITE DESCRIPTION of the Cœlestiall Orbes, according

to the most auncient doctrine of the Pythagorians:

lately reuiued by Copernicus, and by Geometrical Demonstrations approved.



Although in this most excellent and difficile part of Philosophy in all times haue bin sondry opinions touching the situation and moouing of the bodies Celestiall, yet in certaine principles, all Philosophers of any account of all ages haue agreed and consented. First that the Orbe of the fixed starres is of all other the most high, the fardest distant, & comprehendeth

the other spheres of wandringe starres. And of these strayinge bodies called Planetes, the olde Philosophers thought it a good ground in reason that the nighest to the Centre should swiftest moue, because ϕ circle was least and thereby the soner ouerpasse, and the farther distant the more slowly. Therefore as the Moone beinge swiftest in course, is founde also by measure nighest, so haue all agreed that the Orbe of γ , beinge in mouing the slowest of all the Planets, is also the highest: γ next, and the next but of ϕ , and ψ there hath bene great controuersie, because they stray not euery way from the Sunne, as the rest doe. And therefore some haue placed them aboue the Sunne, as Plato in his Timæe others beneath, as Ptolomy and the greater part of them that followed him. Alpetragius maketh ϕ aboue the Sunne, and ψ beneath, and sundry reasones haue bene of all sides alleaged in defence of their opinions. They that follow Plato (supposing that all starres shoulde haue obscure and darke bodies shininge with borrowed light like the Moone) haue alleaged that if those Planets were lower then the Sunne, then shoulde they sometime obscure some part of the body of the Sunne, and also shine, not with a light circulare, but segmentary, and that variable as the Moone:

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which

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which when they see by experience at one time to happen, they conclude with Plato. On the contrary part, such as will maintaine them beneath, frame a likelyhoode by reason of the large space betweene the Dybes of γ and ϵ . For the greatest distance of the ϵ is but 64 semidiameters of the Earth: and to the highest of the Sunneare 1160. so that there remaineth betweene the γ and the ϵ 1095 semidiameters of the Earth. And therefore that so huge a space shoulde not remaine empty, there they situate the Dybes of δ and ζ . And by the distance of their Absides whereby they serch the thickness of their Dybes, they finde that they of all the rest best aunswere that situation, so as the lowest of Mercuries Dybe may reache downe almost to the highest of the Moones, and the toppe of δ to the inferiour part of ζ sphere, which with his Absis shoulde reach almost unto the Sunne. For betweene the Absides of δ by their Theoricks they supputate 177 semidiameters of the Earth, and then the crassitude of δ Dybe being 910 semidiameters both very nigh supply and fill the residue. They therefore will not confesse that these Planetes haue any obscurity in their bodies like the Moone, but that either with their owne proper light, or else being thoroughly perled with solare beames they shine and shewe circular. And hauing a strayinge course of latitude they seldome passe betweene the Sunne and vs, or if they shoulde, their bodies beinge so small coulde scarcely hide the hundred part of the Sunne, and so small a spotte in so noble a lighte coulde hardly be discerned. And yet Auerrois in his Paraphrasis on Ptolomy affirmeth, that hee sawe a little spotte in the Sunne at such time as by Calculation hee had forecast a corporall Contunction. But howe weake this their reason is, it may soone appeare if wee consider howe from the Earth to the lowest of the Moones Dybe there is 38 semidiameters of the Earth, or by the truer computation according to Copernicus 52. And yet in all that so huge a space we knowe nothing but the ayre or fiery Dybe, if any such be. Againe the Diameter of the circle whereby δ shoulde be carried, nigh 45 grades distant from the Sunne, must needes be 6 times greater at the least, then the distance of that circles lowest part from the Earth: then if that whole circle comprehended within the Dybe of δ shoulde be turned about the Earth as needes it must, if we will not attribute to the Earth any motion, wee may easily

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easily consider what rule in the Heavens so vaste and huge an Epicycle, containing a space so many times greater then \odot Earth Aire and Orb of the Moone and \odot also, will make: especially being turned round about the Earth. Agayne the reason of Ptolomy that the \odot must needes bee placed in the midst of those Planets that wander from him at liberty, and those that are as it were combined to him, is proued sensles by the motiō of \odot Moone, whom wee see no lesse to stray from the Sunne, then any of those other three superiour Planetes. But if they will needes haue these two Planetes Orbes within an Orbe of the Sunne, what reason can they geue why they should not depart from the Sunne at large, as the other Planets doe, consideringe \odot increase of swiftnes in their motion must accompany the inferior situatiō, or els the whole order of Theoricks should be disturbed. It is therefore euident that either there must be some other Centre, whereunto the order of these Orbes should be referred, or els no reason in their order, nor cause apparant, why wee should rather to \odot then to γ or any of the rest attribute the higher or remoter Orbe. And therefore seemeth it worthy of consideration that Martianus Capella wrote in his Encyclopedia, and certaine other Latines held, affirming that \odot and \odot doe runne about the Sunne in their spheres peculiare, and therefore coulde not stray farther from the \odot then the capacity of their Orbes would geue them leane, because they encompasse not the Earth as the others doe, but haue their Absides after an other manner conuersed. What other thinge would they hereby signifie, but that the Orbes of these Planetes should enuiron the Sunne as their Centre. So may the sphere of \odot being not of halfe the amplitude of \odot Orbe, bee well situate within the same. And if in like sort we situate the Orbes of \odot , γ and δ referring them as it were to the same Centre, so as they capacity bee such as they containe and circulate also the Earth, happely wee shall not erre, as by euident Demonstrations in the residue of Copernicus Revolutions is demonstrate. For it is apparant that these Planetes nigh the Sunne, are alwayes leaste, and farder distant, and opposite, and much greater in sight, and nigher to vs: whereby it cannot be, but \odot Centre of them is rather to the \odot , then to the Earth to be referred: as in the Orbes of \odot & \odot also.

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also. But if all these to the Sunne as to a Centre in this manner be referred, then must there nedes betweene γ conuerse Dybe of γ and the concaue of γ an huge space bee left, wherein the earth and Elementare frame, enclosed with the Lunary Dybe, of duty must be situate. For from γ earth the Moone may not be farre remoued, being without controuerſie of all other mighte in place and nature to it: especially considering betweene the same Dybes of γ and γ there is roome sufficient. Therefore neede we not to be ashamed to confesse, this whole Globe of Elementes enclosed with the Moones sphere together with the earth as the Centre of the same to be by this great Dybe together with the other Planetes about the Sunne tourned, making by his reuolution our yeare. And whatſoener ſeeme to vs to proceede by the mouing of the Sunne, the same to proceede in deede by the reuolution of the earth, the Sunne still remayninge fixed and immoueable in the middest. And the diſtaunce of the earth from the Sunne to bee ſuch, as beinge compared with the other Planetes maketh euident alterations, & diuerſity of Aspectes: but if it be referred to the Dybe of ſtarres fixed, then hath it no proportion ſenſible, but as a point or a Center to a circumference, which I hold farre more reaſonable to bee graunted, then to fall into ſuch an infinyte multitude of abſurde imaginations, as they were ſayne to admitte that will needes wilfully mayntaine the earthes ſtabilitys the Centre of the worlde. But rather herein to direct our ſelues by that wiſdome, wee ſee in all Gods naturall workes, where we may behold one thing rather endued with many vertues and effectes, then any ſuperfluous or vnnecessary part admitted. And all theſe thinges, although they ſeeme hard, ſtraunge, and incredible, yet to any reaſonable man that hath his vnderſtandinge ripened with Mathematicall demonstration, Copernicus in this Reuolutions according to his promiſe hath made them more euident and cleare then the Sunne beames. Theſe grounds therefore admitted, which no man reaſonably can impugne, that the greater Dybe requireth the longer time to run his Periode: the orderly and moſte beautifull frame of the Heauens doeth enſue. The firſt and higheſt of all is the immoueable ſphere of fixed ſtarres, containing it ſelfe and all the reſt, and therefore fixed: as the place vniuerſall of reſt, wherunto the motions & poſitions of all inferiour ſpheres are to bee compared.

For

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For albeit sundry Astrologians finding alterations in δ declination and Longitude of starres, haue thought that the same also should haue his motion peculiar: yet Copernicus by the motions of the Earth salueth all, and vterly cutteth of the ninth and tenth spheres, which contrary to all sence the maintainers of the Earths stability haue bin compelled to imagine.

The first of the moueable Orbes is that of \bar{h} , which being of all other next vnto the infinite Orbe immoueable, garnished with lightes innumerable, is also in his course most slowe, and once only in thirty yeares passeth his Period.

The second is \bar{f} , who in 12 yeares perfourmeth his circuit.

Mars in 2 yeares runneth his circulare race.

Then foloweth \bar{g} great Orb, wherein the Globe of mortality inclosed in \bar{h} Moones Orbe as an Epicicle, & holdinge the Earth as a Centre by his owne waight resting alway permanent in the middest of the ayre, is carped rounde once in a yeare.

In the fift place is \bar{e} , making her reuolution in 9 monethes.

In the 6 is \bar{d} , who passeth his circuit in 80 dayes.

In the middest of all is the Sunne.

For in so stately a temple as this, who would desyre to set his lampe in any other better or more conueniēt place then this, from whence vniformely it might distribute light to all, for not vnfitly it is of some called the lampe or light of the worlde, of others the mynde, of others the Ruler of the worlde:

*Ad cuius numeros & dñ moueantur, & Orbes
Accipiant leges, præscriptaq; fædera seruent.*

T Trismegistus calleth him \bar{h} visible God. Thus doth \bar{h} Sunne, like a king sitting in his throne, gouerne his courtes of inferi-

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our powers: neither is the Earth defrauded of the service of the Moone, but Aristotle sayth, of all other the Moone to the Earth hath highest alliance, soe here are they matched accordingly.

In this fourme or frame may we behold such a wonderfull Symetry of motions and situations, as in no other can bee proponed. The times whereby we the Inhabitants of the Earth are directed, are constituted by the revolutions of the Earth: the circulation of hir Centre causeth the yeare, the conuersion of hir circumference maketh the naturall day, and the revolution of the ☾ produceth the moneth. By the anely betwe of this Theorick, the cause and reason is apparant, why in ♄ the progressions and Retrogradations are greater then in ♀ and lesse then in ☿, why also in ♀ they are more then in ☿: and why such changes from Direct to retrograde Stationarie, &c. happeneth, notwithstanding more risely in ♀ then in ♄, and yet more rarely in ☿: why in ♀ not so commonly as in ☿. Also why ♄ and ☿ are nigher to Earth in their Acronicall, then in their Cosmicall or Heliacall rising. Especially ☿, who rising at the Sunne set, sheweth in his ruddy fiery countour equal in quantity with Iupiter, & contrarywise setting little after the Sunne, is scarcely to bee discerned from a Starre of the second lyght. All which alterations apparantly folowe vpon the Earthes motion. And that none of these doe happen in the fixed starres, it plainly argueth this huge distaunce and immesurable Altitude, in respect whereof this great Dybe, wherein the Earth is caried, is but a poynt, and utterly without sensible proportion, being compared to that Heauen. For as it is in perspective demonstrate: Every quantyty hath a certayne proportionable distaunce whereunto it may be discerned, and beyond the same it may not be sene. This distaunce therefore of the immoueable Heauen is so exceeding great, that the whole Orbis magnus vanisheth away, if it bee conferred to that Heauen.

Herein can wee neuer sufficiently admire this wonderfull and incomprehensible huge frame of Godes worke proponed to our senses, seing fyrst this ball of the Earth wherein we moue, to the common soyt seemeth great, and that in respect of the Moones Dybe is very small, but compared with Orbis mag-

nus

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nds wherein it is caried, it scarcely retaineth any sensible proportion: so merueilously is that Orbe of annuall motion greater then this little darcke starre wherein wee liue. But that Orbis magnus, being (as is befoze declared) but as a point in respect of the immensity of the immoueable Heauen, we may easily consider what little portion of Gods frame our Elementare corruptible world is, but neuer sufficiently be able to admire the immensity of the rest: especially of that fixed Orbe garnished with lightes innumerable, and reaching vp in Spherical altitude without ende. Of which lights Celestiall it is to be thought, that we onely beholde such as are in the inferiour partes of the same Orbe, and as they are higher, so seeme they of lesse and lesser quantity, euen til our sight, being not able farther to reach or conceiue the greatest part of the rest, by reason of their wonderfull distance inuisible vnto vs. And this may well be thought of vs to be the glorious court of the great God, whose vnserchable workes inuisible we may partly by these his visible, coniecture: to whose infinite power & maiesty, such an infinite place surmounting all other both in quantitie and quality onely is conuenient. But because the world hath so long a time bin caried with an opinion of the Earths stability, as the contrary cannot but be nowe very imperasuible, I haue thought good, out of Copernicus also, to geue a taste of reasons philosophicall alleadged for the Earthes stability, and theys solutions: that such as are not able with Geometricall eyes to beholde the secrete perfection of Copernicus Theoricke, may yet by these familiar and naturall reasons bee induced to search farther, and not rashly to condemne for phantasticall, so auncient doctrine reuiued, and by Copernicus so demonstratiuely approued.

What reasons moued Aristotle, and others that followed him, to thinke the Earth to rest immoueable as a Centre to the whole world.

The moste effectuall reasons that they produce to proue the Earthes stability in the middle or lowest part of the world,

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is that of Gravity and Levity. For of all other the Element of the Earth (say they) is most heauy, & all ponderous thinges are caried vnto it, striving as it were to sway euen downe to the immotte part thereof. For the Earth being round, into y^e which all waighty thinges on euery syde fall, making right angles on the superficies, passe to the Centre, seing euery right line that falleth perpendicularly vpon the Horizon in that place where it toucheth the Earth must nedes passe by the Centre. And those thinges that are caried toward that Medium, it is likely that there also they would rest. So much therefore the rather shall the Earth rest in the middle, and (receiuing all thinges into it selfe that fall) by his owne wayght shall bee most immoueable. Agayne they seeke to proue it by reason of motion and his nature, for of one and the same symple body, the motion must also bee simple, sayth Aristotle. Of simple motions there are two kindes, Right and Circular: Right are either by or downe: so that euery simple motion is either downward toward the Centre, or vpward from the Centre, or Circular about y^e Centre. Now vnto y^e Earth & Water in respect of their weight, the motion downward is conuenient to seeke the Centre: to Ayre and fier in regard of their lightnes, vpward and from the Centre. So is it meete to these Elementes to attribute the right or streight motion, and to the Heauens only it is proper circularly about this meane or Centre to be turned round. Thus much Aristotle. Of therfore (sayth Ptolome of Alexandria) y^e Earth should turne but only by that daily motiō, thinges quit contrary to these should happen. For his motion should bee most swift and violent, that in 24 houres should let passe the whole circuit of y^e Earth: and those thinges which by sodaine turning are stirred, are altogether vneete to collect, but rather to disperse thinges vnited, vnlesse they shoulde by some fyne fastening be kept together. And long ere this, the Earth being dissolued in peeces should haue bin scattered through the Heauens, which were a mockery to thinke of: and much moze, beastes, and all other waightes that are loose could not remaine vnshaken. And also thinges falling should not light on the places perpendiculare vnder them, neither should they fall directly thereto, the same being violently in the meane while caried away. Cloudes also and
other

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other things hanginge in the ayre shoulde alwayes seeme to vs to
be caried toward the West.

The Solution of these Reasons,
with their insufficiency.

These are the causes, and such other, wherewith they approue
the Earth to rest in the middle of the world, and put out of all
question. But he that will maintaine the Earthes mobility
may say that this motion is not violent but naturall. And these
things which are naturally mooued haue effectes contrary to
such as are violently caried. For such motions wherein force
and violence is vled, must needes be dissolved and cannot bee of
long continuance: but those which by nature are caused, remaine
still in their perfect estate, and are conserued and kept in their
most excellent constitution. Withour cause therefore did Ptolomy
feare least y^e Earth & all Earthly things shoulde be torne in pee-
ces by this Revolution of the Earth, caused by the workinge of
nature, whose operations are farre different from those of Arte, or
such as humane intelligence may reach vnto. But why shoulde
he not much more thinke and misdoubt the same of the world,
whose motion must of necessity be so much more swift and behermet
then this of the Earth, as the Heauen is greater then the Earth.
Is therefore the Heauen made so huge in quantity that it might
with vspeakable vehemency of motion bee seuered from the
Centre, least happily resting it should fall, as some Philoso-
phers haue affirmed? Surely if this reason should take place,
the Magnitude of y^e Heauen should infinitely extend. For the more
this motion should violently bee caried higher, the greater
should the swiftnes be, by reason of the increasung of the circumfe-
rence, which must of necessity in 24 houres bee past ouer, and in
lyke maner by increase of the motion, the magnitude must also
necessarily bee augmented: thus should the swiftnes increase
Magnitude, and the Magnitude the swiftnes infinitely. But accor-
ding to that ground of nature, whatsoeuer is infinite can neuer
be passed ouer. The Heauen therefore of necessity must stand & rest
fixed. But say they, without the heauen there is no body, no place, no
empty.

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emptie, and not any thing at all whether Heauen should or could farther extend. But this surely is very strange, that nothing should haue such efficient Power to reſtraine ſome thing, the ſame hauing a very eſſence and being. Yet if we would thus confeſſe that ϕ Heauen were indeede infinite upward, and onely finite downward in reſpect of his ſphericall concavity: much more perhaps might that ſaying bee verified, that without the Heauen is nothing, ſeeing euery thing in reſpect of ϕ infinities thereof had place ſufficient within the ſame. But then muſt it of neceſſity remaine immouable. For the cheefeſt reaſon that hath moued ſome to thinke the Heauen limited, was Motion, which they thought without controuerſie to bee indeede in it. But whether the world haue his boundes or bee indeede infinite and without boundes, let vs leave that to bee diſcuſſed of Philoſophers: ſure we are that the Earth is not infinite, but hath a circumference limited. Seeing therefore all Philoſophers conſent the limited bodies may haue motion, and infinite cannot haue any: why doe we yet ſtagger to confeſſe motion in the Earth, being moſt agreeable to his forme and nature, whole boundes alſo and circumference wee knowe, rather then to imagine that the whole world ſhould ſway and turne, whole end wee knowe not, ne poſſibly can of any mortall man be knowne. And therefore the true Motion in deede to be in the Earth, and ϕ apparance only in ϕ Heauen: and that theſe apparances are not otherwiſe then if the Virgilian *Aeneas* ſhould ſay:

Prouehimur portu, terra q^{ue} urbeſq^{ue} recedunt.

FOR a ſhip caried in a ſmooth Sea with ſuch tranquillity doth paſſe away, that all things on the ſhores and the Seas, to the ſaylers ſeeme to moue, and themſelues only quietly to reſt with all ſuch thinges as are aborde with them: ſo ſuerly may it be in ϕ Earth, whole Motion being naturall and not forcible, of all other is moſt vniſorme and vnperceueable, whereby to vs that ſayle therein the whole world may ſeeme to roule about. But what ſhall wee then ſay of Cloudes & other things hanging or reſting in

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in the ayre, or tending upward, but that not only the Earth & sea making one globe, but also no smal part of the ayre is likewise circularly caried, & in like sort all such thinges as are deriued from them or haue any manner of alliance with them. Either for that the lower Region of the ayre being mixt with earthly and watry vapours, folowe the same nature of the Earth. Either that it is begayned and gotten from the Earth by reason of Vicinity or Contiguitie. Which if any man merueyle at, let him consider how the olde Philosophers did yelde the same reason for the revolution of the highest Region of the ayre, wherein we may sometime behold Comets carped circularly no otherwise then the bodies Celestiall seeme to bee, and yet hath that Region of the ayre lesse conuenience with the Orbes celestiall then this lowe part with the Earth. But we affirme that part of the ayre in respect of this great distaunce to be destitute of this motion terrestriall, & that this part of the ayre that is next to the Earth doth appeare most still and quiet, by reason of his unifoyme naturall accompening of the Earth, and likewise thinges that hange therein, vlesse by wynds or other violent accident they bee tossed too and froo. For the wind in the ayre is nothing els but as waues in the Sea. And of thinges ascending and descending in respect of the world we must confesse them to haue a mixt motion of right and circulare, albe it it seeme to vs right and straight, not otherwise then if in a ship vnder sayle a man should let a plummet downe from the top along by the masteeuen to the decke: this plummet passing alwayes by the straight masse, seemeth also to fall in a right line, but being by discours & reason wayed, his motion is found mixt of right and circulare. For such thinges as naturally fall downward, being of earthly nature, there is no doubt but as partes they retayne the nature of the whole. No otherwise is it to these thinges which by fiery force are caried upward. For the earthly fier is chiefly nourished with earthly matter: and flame is defined to be naught els but burning fume or smoke, and the property of fier is to extend the subiect whereinto it entreth, the which it doth with so great violence, as by no meanes or engines it can bee constrained but that with breache of bandes it wil perfourme his nature. This motion extensive is from the Centre to the circumference: so if any earthy part bee fiered,

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ferred, it is carried violently upward. Therefore whereas they say that of simple bodies the motion is altogether simple, of the circulare it is chiefly verified so long as y simple body remaineth in his naturall place and perfit unity of composition: for in the same place there can bee no other motion but circulare, which remainning wholly in it selfe is most like to rest and immobility. But right or streight motion only happen to those thinges that stray and wander, or by any meanes are thrust out of their naturall place. But nothing can bee more repugnaunt to the forme and ordinance of the world, then that thinges naturally should be out of their naturall place. This kinde of motion therefore that is by right line is only accident to those thinges that are not in their right state or perfection naturall, while partes are disioyned from their whole body, and couet to returne to the unity thereof agayne. Neither do these things which are caried upward or downward besides this circulare mouing make any simple vniforme, or equal motiō, for which their leuity or ponderosity of their body, they cannot bee tempered, but alwaies as they fall (beginning slowly) they increase their motion, and the farther the more swiftly, whereas contrariwise this our earthly fier (for other we cannot see) we may behold as it is caried upward to vanish and decay, as it were confessing the cause of violence to proceede only from his matter terrestriall. The Circular motion alway continueth vniforme and equall, by reason of his cause which is indeficient and alway continuing. But the other hasteneth to ende and to attaine that place where they leaue longer to bee heauy or light, and hauing attained that place, they motion ceaseth. Seing therefore this circulare motion is proper to the whole, as streight is only vnto partes, we may say that circulare doth rest with streight as animal cum agro. And whereas Aristotle hath distributed Simplicem motum into these three kyndes, A medio ad medium, and circa medium, it must bee only in reason, and imagination, as wee likewise seuer in consideration Geometricall, a point, a line, and a superficies, whereas in deede neither can stand without other, ne any of them without a body.

Hereto wee may adioyne, that the condition of immobility is more

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more noble and diuine then that of chaunge, alteration, or instabi-
lity, and therfore more agreeable to heauen then to this earth,
where all thinges are subiect to continuall mutability. And see-
ing by euident prooofe of Geometricall mensuration wee finde
that the Planetes are sometimes nigher to vs and somtymes
more remote, and that therfore euen the maintayners of h Earthes
stability are enforced to confesse that the Earth is not their D bes
Centre, this motion circa Medium must in more generall sort
bee taken, and that it may bee vnderstande that euery D be hath
his peculiar Medium and Centre, in regard whereof this simple
and vniforme motion is to be considered. Seeing therfore that these
 D bes haue severall Centers, it may bee doubted whether the
Centre of this earthly Grauity bee also the Centre of the world.
For Grauity is nothing els but a certaine proclivity or
naturall coueting of partes to bee cupled with the whole,
whyche by diuine prouidence of the Creator of all, is giuen
and impressed into the partes, that they should restore themselves
into their vniety and integrity, concurring in spherical forme.
Which kinde of propriety or affection it is likely also that the
Moone and other glorious bodies want not, to knit and combine
their partes together, and to maintaine them in their round shape,
which bodies notwithstanding are by sundry motions, sundry
wayes conueighed. Thus as it is apparant by these natu-
rall reasones, that the mobility of the earth is more probable
and likely then the stability: so if it bee M ethematically con-
sidered, and with Geometricall Mensurations euery part of eue-
ry Theoricke examined: the discrete Student shall finde, that Co-
pernicus not without great reason did propone this ground of the
Earthes Mobility.

A Short Discourse Touching *the Variation of the compasse.*

Cc.

Peruet-

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Trueplous (no doubt) is that naturall propriety of
M Magnes, whereby the needle touched immediatly
tourneth to some one certayn point of the heauens,
and after sundry motions hither and thither, findeth
rest onely in one place and point. And albeit this
point in severall Horizons bee different, yet in any one Horizon
it remayneth alway permanent, and therefore it playnly appeareth
that the same proceedeth of some constant permanent cause natu-
rall, and not of any mutable uncertaine cause accidentall. But
what this cause shoulde be, no man hitherto hath truly discovered.
To omitte apparant absurd opinions, the most probable of those
that haue bene gyuen and generally best allowed, is the point
Attractive, which shoulde bee of such vertue as to draw the needle
touched alway towarde the same point: but whether this point
shoulde bee in the Heauens or Earth is an other controuersie.
Such as will haue it in the Earth, affyrme it to be a huge moun-
tayne or rock of Magnes stone, distant from y^e Pole certayn grades,
which drawing the needle to it selfe, alwayes causeth it to make
an angle of variation from the Pole of the world, save onely un-
der the Meridian that passeth by the same Attractive point.
But the errour of this opinion will soone bee found of them that
shall vpon this supposition, and two different angles of variation,
search out the place of that point Attractive (the same being in
that Intersection of the two circles of position by the variations
determined) and then conferre that with some third angle of va-
riation: whereby it shall plainly appeare that in the Earth no
such one Attractive point can bee imagined, as shall by cir-
cle of position produce such variations as in Navigation haue
bin discovered. And to place this Point Attractive in any of
the Heauens it would appeare moze absurde. For whether the
Heauens mooue and the Earth rest immoueable, or the
Earth mooue and the great Dybe of starres bee permanent, as
of necessity the one or the other must bee true (considering a
motion is apparant) it must necessarily followe that his altera-
tion shoulde bee in continuall alteration euery houre and moment
of the day: but by experience wee finde the contrary, and therefore
may necessarily bee inferred, no such Attractive Point in that
Heauen. So that hauing found by these tryalls this imagination

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of a Point Attractive, and such instrumentes as haue bin vpon that ground deuised, but meere vanities, I haue somewhat farther soughte. And among sundry imaginations that I haue Mathematically handled, I thinke it is not amisse to propone one to bee considered, waied, and examined by exquisite tryall of Geometricall Demonstration and Arithmetical Calculation: for it is no question for grosse mariners to meddle with, no more then the finding of the Longitude. And therefore I cannot a litle wonder at the blinde bouldnes of Sebastian Cabotto, and some others, that being ignorant both in Geometricall demonstration and Arithmetical Symicall Calculations, haue nathelasse tane vpon them in theese moste difficile questions to promise resolution, being no more able or likely to perfourme it, then an Oxe to flie betweene two Mountaine Toppes. Those sciences being the onely wynges to eleuate our grosse senses to matter so highe and mysticall, let such content themselues with the praise of painfull, harde, farre trauelled mariners, and for their newe dyscoueries let them learne Appelles lesson: *Nesutor vltra crepidam*. Of these two Problemes thus much I promise for the inuention of the Longitude, I will (God spareinge lyfe) deliuer meanes as exacte, certaine, and seazeible at all times of the yeare in what place soeuer as by Eclipses. And for the other if I deliuer not the like, at the least so farre I will wade therein, that such blynde bouldnesse knowing somewhat more theyr owne imperfection shall in such mysteries vse more modesty.

¶ An Hypothesis or supposed cause of the variation of the compasse, to be Mathematically wayed.

As the Axis of the Earth, notwithstanding all other motions, remayneth as it were immoueable, and yet in respect of the sphericall forme of the Earth in euery seuerall Horizon maketh a seuerall line Meridional, by reason of the section made in the superficies of the Horizons by Meridians, hauing all that Axis as their common diameter, so may it also come to passe of the line of the needle and his variation,

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tion, the needle being alway permanent in one plaine superficies according to the severall section of the plaine wherein it resteth, and the Horizon there may continually bee made, in every playne newe variations. More playnly to open this imagination thus I say, that as in a payre of ballance of equall weight there is a certaine motion too and fro before they finde their true place of rest (y^e same being only in y^e level of y^e Horizon) which cometh to passe, as Copernicus affirmeth, by the Attractive Centre of the earth, who drawing unto him either weight wth like force, finding y^e subjects like also, compelleth them to rest in the superficies like distant from that Attractive Centre: So in the needle being a body endued with two severall proprieties the one of Gravity and Levety, which being equally peyzed, forceth him to abide in the Horizon: the other being Magneticall and receiued by the touch, which causeth him to rest alway in that one Meridian, to the Magnes appropriate, it therby cometh to passe that after sundry balancing this way and that way, it on'y settleth in the comon section of this peculiar Meridian and the Horizon. So that even as in Dialles the line of the stile only accordeth and concurrith with the Meridian line, in such as are voide of declination, but in all such Playnes as are declinatorie the line of the stile varieth from the Meridian line, and the same angle of variation also altereth aswel in respect of inclination as declination, so I suppose this variation of the Cumpasse to bee nothing els but the angle comprehended betweene the Meridian line, and the comon section of the magnetical Meridian and the Horizon in the Horizontal Playne, and this angle to bee alwayes exactly equal to the angle cōteined of y^e Meridian line & line of y^e stile, the Longitude of the place proponed accounted from the magneticall Meridian, being equal to the declination of the Dialls Plaine superficies, making computation from South to East circularly, and the Latitude of the place equal to the complement of the inclination of the same superficies Horological. Of the verity of this supposition I could easely determine, if there were any trust to the obseruation of Mariners: but hauing found by experience their grosse vsage and homely instrumentes, where halfe a poinct comunonly breakes no square, and also their repugnaunt tales

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tales that haue traualled the selfe same voyadges, I cannot yet
resolue.

Vpon the examination of this Hypothesis there may happily
fall out a straunge Paradox, not thought of hitherto, that these
bulgare marine Charters delineate with Parallele meridians,
and right lined Rumby, being of themselves apparantly false
and erroneous, yet used without rectification of the compasse: may
bring forth true effects, and so two errors concurring produce
a verity.

Errours in the arte of Nauigati-

on commonly practized.

First, all their Chartes are described with streight
Meridian lines running equidistant or Parallele, which
error is most manifest to any that hath tasted but the
first Principles of Cosmographie, considering they are
all great circles, and concur in the Poles.

Secondly, they suppose that running upon any of their pointes
of their compasse, they should passe in the circumference of a
great circle, and therfore in the plaine Charte describe those wyndes
with streight lines: but therein are they greatly abused, for
the shippe steering the North and the South, onely maketh her
course in a great circle: East or West she describeth a Parallele,
and being stirred on any other meane point (the compasse be-
ing truly rectified) she delineateth in her course a curue or
Helicall line, neither straight nor circular but myxt of both, and
therefore to set forth these wyndes in y^e Chartes with streight lines
is most erroneous.

Thirdly their rule to knowe Latitude by y^e Pole starre, adding
or subtracting from his Altitude according to the situation of
the Grades, is also false, and that worst is, cannot be amended, but

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bee it neuer so well rectified to one Climate, yet is it false in all other.

Furtherly, their taking of the Sunne with their Balistile (as they terme it) is most false: and whereas some findinge the error thereof haue gone about to remedy the same by cutting of a part at the end, thinking thereby it might appoche to the Centre of the eye, they encrease therby the error and make it more false. For *visus non fit a puncto*, as they suppose. And this error is much like the other of the Pole starre and situation of the Guardes: for be it neuer so well corrected by section to any one Altitude, then shall it bee false for all other, as to any skilfull in Perspective it is easily demonstrate.

This error I haue already reformed, Demonstratiue, & Practicè in my booke lately published, entituled *Ala seu Scale Mathematica*.

Also the Rules they haue to knowe howe many leagues they shall runne vpon euery point to raise one degree in Latitude, are also meere false. For they search that Arcke Itinerall as though it were $\frac{1}{2}$ Hypothenuſa to a right angled triangle, whose sides are circles of contrary nature, the one a Parallele the other a great Circle, and therefore without all sense seeke they by proportion of right Lines to deliuer their quantity.

But besides these errors they haue one great imperfection yet in their arte, and hitherto by no man supplied, and that is the want of exact rules to knowe the Longitude of Arckes Itinerall, East and West, without the which they can neither truly geue the place or situation of any Coast, Harbouroth, Rode or Towne, ne yet in sayling, discern howe the place they sayle vnto beareth from them, or howe farre it is distant, whereby they are enforced long before they come at any Coast all night to stryke sayle, notwithstanding they were vpon it, thereby loosing the benefite of prosperous winds, in such sort sometime, that whereas keeping a true course they might haue beene quietly at Roade, they are
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by contrary and aduerse tempestes caried farre of, and so not without greate charge to the owner, paine to the company, and perill to the vessell, are enforced to wast their time, which groweth of their ignorance, that they neither haue true Rules to direct themselves the highest course, ne yet treading their beaten pathes can assuredly decide of their certaine place. For reformation of these errors and imperfections, newe Chartes, newe Instrumentes, and newe Rules must bee prescribed. Wherein I haue prepared in a peculier volume for that purpose to entreate, wishing in the meane time that such as are not able to reforme these faultes, will abstayne to teach our Countreimen more Errors.

FINIS.

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